NASA/TM-2003-206892, Vol. 24



SeaWiFS Postlaunch Technical Report Series

Stanford B. Hooker and Elaine R. Firestone, Editors

Volume 24, SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1–23

Elaine R. Firestone and Stanford B. Hooker

National Aeronautics and Space Administration

Goddard Space Flight Center Greenbelt, Maryland 20771

The NASA STI Program Office ... in Profile

Since its founding, NASA has been dedicated to the advancement of aeronautics and space science. The NASA Scientific and Technical Information (STI) Program Office plays a key part in helping NASA maintain this important role.

The NASA STI Program Office is operated by Langley Research Center, the lead center for NASA's scientific and technical information. The NASA STI Program Office provides access to the NASA STI Database, the largest collection of aeronautical and space science STI in the world. The Program Office is also NASA's institutional mechanism for disseminating the results of its research and development activities. These results are published by NASA in the NASA STI Report Series, which includes the following report types:

- TECHNICAL PUBLICATION. Reports of completed research or a major significant phase of research that present the results of NASA programs and include extensive data or theoretical analysis. Includes compilations of significant scientific and technical data and information deemed to be of continuing reference value. NASA's counterpart of peer-reviewed formal professional papers but has less stringent limitations on manuscript length and extent of graphic presentations.
- TECHNICAL MEMORANDUM. Scientific and technical findings that are preliminary or of specialized interest, e.g., quick release reports, working papers, and bibliographies that contain minimal annotation. Does not contain extensive analysis.
- CONTRACTOR REPORT. Scientific and technical findings by NASA-sponsored contractors and grantees.

- CONFERENCE PUBLICATION. Collected papers from scientific and technical conferences, symposia, seminars, or other meetings sponsored or cosponsored by NASA.
- SPECIAL PUBLICATION. Scientific, technical, or historical information from NASA programs, projects, and mission, often concerned with subjects having substantial public interest.
- TECHNICAL TRANSLATION.
 English-language translations of foreign scientific and technical material pertinent to NASA's mission.

Specialized services that complement the STI Program Office's diverse offerings include creating custom thesauri, building customized databases, organizing and publishing research results... even providing videos.

For more information about the NASA STI Program Office, see the following:

- Access the NASA SIT Program Home Page at http://www.sti.nasa.gov/STI-homepage.html
- E-mail your question via the Internet to help@sti.nasa.gov
- Fax your question to the NASA Access Help Desk at (301) 621-0134
- Write to: NASA Access Help Desk NASA Center for Aerospace Information 7121 Standard Drive Hanover, MD 21076-1320

NASA/TM-2003-206892, Vol. 24



SeaWiFS Postlaunch Technical Report Series

Stanford B. Hooker, Editor
NASA Goddard Space Flight Center, Greenbelt, Maryland

Elaine R. Firestone, Senior Scientific Technical Editor Science Applications International Corporation, Beltsville, Maryland

Volume 24, SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1–23

Elaine R. Firestone Science Applications International Corporation, Beltsville, Maryland

Stanford B. Hooker
NASA Goddard Space Flight Center, Greenbelt, Maryland

ISSN 1522-8789

Available from:

NASA Center for AeroSpace Information 7121 Standard Drive Hanover, MD 21076–1320 Price Code: A17

National Technical Information Service 5285 Port Royal Road Springfield, VA 22161 Price Code: A10

ABSTRACT

The Sea-viewing Wide Field-of-view Sensor (SeaWiFS) is the follow-on ocean color instrument to the Coastal Zone Color Scanner (CZCS), which ceased operations in 1986, after an eight-year mission. SeaWiFS was launched on 1 August 1997, onboard the OrbView-2 satellite, built by Orbital Sciences Corporation (OSC). The SeaWiFS Project at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center (GSFC), undertook the responsibility of documenting all aspects of this mission, which is critical to the ocean color and marine science communities. The start of this documentation was titled the SeaWiFS Technical Report Series, which ended after 43 volumes were published. A follow-on series was started, titled the SeaWiFS Postlaunch Technical Report Series. This particular volume of the so-called Postlaunch Series serves as a reference, or guidebook, to the previous 23 volumes and consists of 4 sections including an errata, an index to key words and phrases, a list of acronyms used, and a list of all references cited. The editors will publish a cumulative index of this type after every five volumes.

1. INTRODUCTION

This is the fourth in a series of indexes, published as a separate volume in the SeaWiFS Postlaunch Technical Report Series, and includes information found in the previous 23 volumes of the series. The SeaWiFS Postlaunch Technical Report Series has been written under National Aeronautics and Space Administration (NASA) Technical Memorandum (TM) numbers 1998–206892, 1999–206892, and so on, up to the present numbering of 2003–206892, with the year part of the TM number changing with each calendar year of its existence. The volume numbers, authors, and titles of the volumes covered in this index are the following:

- Vol. 1: Johnson, B.C., J.B. Fowler, and C.L. Cromer, The SeaWiFS Transfer Radiometer (SXR).
- Vol. 2: Aiken, J., D.G. Cummings, S.W. Gibb, N.W. Rees, R. Woodd-Walker, E.M.S. Woodward, J. Woolfenden, S.B. Hooker, J-F. Berthon, C.D. Dempsey, D.J. Suggett, P. Wood, C. Donlon, N. González-Benítez, I. Huskin, M. Quevedo, R. Barciela-Fernandez, C. de Vargas, and C. Mc-Kee, AMT-5 Cruise Report.
- Vol. 3: Hooker, S.B., G. Zibordi, G. Lazin, and S. Mc-Lean, The SeaBOARR-98 Field Campaign.
- Vol. 4: Johnson, B.C., E.A. Early, R.E. Eplee, Jr., R.A. Barnes, and R.T. Caffrey, The 1997 Pre-launch Radiometric Calibration of SeaWiFS.
- Vol. 5: Barnes, R.A., R.E. Eplee, Jr., S.F. Biggar, K.J. Thome, E.F. Zalewski, P.N. Slater, and A.W. Holmes, The SeaWiFS Solar Radiation-Based Calibration and the Transfer-to-Orbit Experiment.
- Vol. 6: Firestone, E.R., and S.B. Hooker, SeaWiFS

 Postlaunch Technical Report Series Cumulative
 Index: Volumes 1-5.

- Vol. 7: Johnson, B.C., H.W. Yoon, S.S. Bruce, P-S. Shaw, A. Thompson, S.B. Hooker, R.E. Eplee, Jr., R.A. Barnes, S. Maritorena, and J.L. Mueller, The Fifth SeaWiFS Intercalibration Round-Robin Experiment (SIRREX-5), July 1996.
- Vol. 8: Hooker, S.B., and G. Lazin, The SeaBOARR-99 Field Campaign.
- Vol. 9: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1.
- Vol. 10: McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2.
- Vol. 11: O'Reilly, J.E., and 24 Coauthors, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 3.
- Vol. 12: Firestone, E.R., and S.B. Hooker, SeaWiFS

 Postlaunch Technical Report Series Cumulative
 Index: Volumes 1-11.
- Vol. 13: Hooker, S.B., G. Zibordi, J-F. Berthon, S.W. Bailey, and C.M. Pietras, The SeaWiFS Photometer Revision for Incident Surface Measurement (SeaPRISM) Field Commissioning.
- Vol. 14: Hooker, S.B., H. Claustre, J. Ras, L. Van Heukelem, J-F. Berthon, C. Targa, D. van der Linde, R. Barlow, and H. Sessions, The First SeaWiFS HPLC Analysis Round-Robin Experiment (Sea-HARRE-1).
- Vol. 15: Hooker, S.B., G. Zibordi, J-F. Berthon, D. D'Alimonte, S. Maritorena, S. McLean, and J. Sildam, Results of the Second SeaWiFS Data Analysis Round Robin, March 2000 (DARR-00).

- Vol. 16: Patt, F.S., Navigation Algorithms for the Sea- always enclosed in parentheses: WiFS Mission.
- Vol. 17: Hooker, S.B., S. McLean, J. Sherman, M. Small, G. Lazin, G. Zibordi, and J.W. Brown, The Seventh SeaWiFS Intercalibration Round-Robin Experiment (SIRREX-7), March 1999.
- Vol. 18: Firestone, E.R., and S.B. Hooker, SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1–17.
- Vol. 19: Zibordi, G., J-F. Berthon, J.P. Doyle, S. Grossi, D. van der Linde, C. Targa, and L. Alberotanza, Coastal Atmosphere and Sea Time Series (CoASTS), Part 1: A Tower-Based Long-Term Measurement Program.
- Vol. 20: Berthon, J-F., G. Zibordi, J.P. Dovle, S. Grossi, D. van der Linde, and C. Targa, Coastal Atmosphere and Sea Time Series (CoASTS), Part 2: Data Analysis.
- Vol. 21: Zibordi, G., D. D'Alimonte, D. van der Linde, J-F. Berthon, S.B. Hooker, J.L. Mueller, G. Lazin, and S. McLean, The Eighth SeaWiFS Intercalibration Round-Robin Experiment (SIRREX-8), September-December 2001.
- Vol. 22: Patt, F.S., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, W.D. Robinson, G.C. Feldman, S.W. Bailey J. Gales, P.J. Werdell, M. Wang, R. Frouin, R.P. Stumpf, R.A. Arnone, R.W. Gould, Jr., P.M. Martinolich, V. Ransibrahmanakul, J.E. O'Reilly, and J.A. Yoder, Algorithm Updates for the Fourth SeaWiFS Data Reprocessing.
- Vol. 23: Hooker, S.B., G. Zibordi, J-F. Berthon, D. D'Alimonte, D. van der Linde, and J.W. Brown, Tower-Perturbation Measurements in Above-Water Radiometry.

This volume serves as a reference, or guidebook, to the preceding volumes of the so-called Postlaunch Series. It consists of three main sections: a cumulative index to key words and phrases, a glossary of acronyms, and a bibliography of all references cited in the series. An errata section has been added to address issues and needed corrections which have come to the editors' attention since the volumes were first published.

The nomenclature of the index section is a familiar one, in the sense that it is a sequence of alphabetical entries, but it uses a unique format because multiple volumes are involved. Unless indicated otherwise, the index entries refer to some aspect of the SeaWiFS Project or instrument. An index entry is composed of a keyword or phrase followed by an entry field that directs the reader to the possible locations where a discussion of the keyword can be found. The entry field is normally made up of a volume identifier shown in bold face, followed by a page identifier, which is

keyword, volume(pages).

If an entry is the subject of an entire volume, the volume field is shown in slanted type without a page field:

keyword, Vol. #.

An entry can also be the subject of a complete chapter. In this instance, both the volume number and chapter number appear without a page field:

keyword, volume(ch. #).

Figures or tables that provide particularly important summary information are also indicated as separate entries in the page field—even if they fall within an already specified page range. In this case, the figure or table number is given with the page number on which it appears:

keyword, volume(Fig. # p. #),

or

keyword, **volume**(Table # p. #).

Furthermore, because of the recursive nature of various topics, an index subentry may be repeated at the bottom of a main heading with the "see also" nomenclature. This directs the reader to a main entry elsewhere in the index for a more in-depth treatment of the topic.

2. ERRATA

Since the issuance of previous volumes, a number of the references cited have changed their publication status, e.g., they have gone from "submitted" to "accepted," or "in press" to printed matter. In other instances, some part (or parts) of the citation, e.g., the title, authors, or year, has changed. Listed below are the references in question as they were cited in one or more of the first 23 volumes in the series, along with how they now appear in the references section of this volume. In addition, the definition of an acronym also appears differently in this volume than how it was originally published.

Original Citation

Biggar, S.F., P.N. Slater, J.M. Palmer, and K.J. Thome, 2001: Unified approach to absolute radiometric calibration in the solar-reflective range. Remote Sens. Environ., (accepted).

Revised Citation

Slater, P.N., Biggar, S.F., J.M. Palmer, and K.J. Thome. 2001: Unified approach to absolute radiometric calibration in the solar-reflective range. Remote Sens. Environ., 77, 293-303.

Original Citation

Tassan, S., and M. Ferrari, 2002: Sensitivity analysis of the "Transmittance-Reflectance" method for measuring light absorption by aquatic particles retained on filters, J. Plankton Res., (submitted).

Revised Citation

Tassan, S., and M. Ferrari, 2002: A sensitivity analysis of the "Transmittance-Reflectance" method for measuring light absorption by aquatic particles. *J. Plankton Res.*, 24, 757–774.

Original Citation

Thuillier, G., M. Hersé, P.C. Simon, D. Labs, H. Mandel, and D. Gillotay, 2003: The solar spectral irradiance from 200 to 2400 nm as measured by the SOLSPEC spectrometer from the Atlas 1-2-3 and EURECA missions. Solar Physics, (submitted).

Revised Citation

Thuillier, G., M. Hersé, P.C. Simon, D. Labs, H. Mandel, and D. Gillotay, 2003: The solar spectral irradiance from 200 to 2400 nm as measured by the SOLSPEC spectrometer from the Atlas 1-2-3 and EURECA missions. Solar Physics, 214, 1-22.

Original Citation

Van Heukelem, L., and C.S. Thomas, 2000: Computer-assisted HPLC method development with applications to the isolation and analysis of marine phytoplankton pigments. J. Chrom. A., (in press).

Revised Citation

Van Heukelem, L., and C.S. Thomas, 2001: Computer-assisted HPLC method development with applications to the isolation and analysis of marine phytoplankton pigments. J. Chrom. A., 910, 31-49.

Original Citation

Vidussi, V., H. Claustre, J. Bustillos-Guzmán, and J.C. Marty, 1996: Determination of chlorophylls and carotenoids of marine plankton: separation of chlorophyll a from divinyl-chlorophyll a and zeaxanthin from lutein, J. Plankton Res., 18, 2,377-2,382.

and

Vidussi, G., H. Claustre, J. Bustillos-Guzmàn, C. Cailliau, and J-C. Marty, 2000: Rapid HPLC method for determination of phytoplankton chemotaxonomic pigments: separation of chlorophyll a from divinyl-chlorophyll a and zeaxanthin from lutein. J. Plankton Res., 18, 2,377-2,382.

Revised Citation

Vidussi, F., H. Claustre, J. Bustillos-Guzmán, C. Cailliau, and J.C. Marty, 1996: Determination of chlorophylls and carotenoids of marine phytoplankton: separation of chlorophyll a from divinyl-chlorophyll a and zeaxanthin from lutein. J. Plankton Res., 18, 2,377-2,382.

Original Acronym

SIRCUS: Spectral Irradiance and Radiance Responsivity Calibrations Using Uniform Standards.

Revised Acronym

SIRCUS: Spectral Irradiance and Radiance Calibrations with Uniform Standards.

AMT-5, cont.

CUMULATIVE INDEX

Unless otherwise indicated, the index entries that follow refer to some aspect of the SeaWiFS instrument or Project.

-A-

AAOT, 13(1-2, Fig. 2 p. 5, 7, Figs. 9-10 p. 9, Table 3 p. 14); 19(2-6, Fig. 2 p. 5); 23(5, Fig. 1 p. 5, 12-14, Figs. 8-9 p. 13). above-water methods, see methods, above-water. above-water radiometry, Vol. 23. data processing methods, 23(ch. 4). horizontal deployment system (HDS), 23(ch. 2). methods, in situ, 23(ch. 3). preliminary results, 23(ch. 5). sampling equipment, in situ, 23(ch. 1). see also equipment, in situ sampling. see also data processing methods. see also HDS. see also methods. absolute calibration, 19(6-7). SQM, 17(56-58, Fig. 32 p. 57, Table 12 p. 58). SQM and SQM-II, 17(ch. 8). aperture mapping, SQM-II, 17(55-56, Fig. 31 p. 56). AC-9, 3(14-15), Table E1 p.32; 19(4, 5-6), Table 2 p.6, 9-10; 20(12); 23(4, 10). Acqua Alta Oceanographic Tower, see AAOT. aerosol correction, 22(51). aerosol index, 10(ch. 1). Case-2 water, 10(5). potential applications, 10(5). sensitivity studies, 10(3-5, Table 1 p. 4, Fig. 1 p. 4). aerosol optical thickness, 9(ch. 9); 10(ch. 6). preliminary results, 10(Fig. 26 p. 43, 44, Table 11 p. 44). procedures, 10(40-41, Table 9 p. 41, Fig. 25 p. 42, Table 10 p.43,44). algorithms: atmospheric correction, 9(ch. 8); 22(ch. 5). chlorophyll a, 11(ch. 1, ch. 2). coccolithophore, 9(ch. 7). data processing, 9(5). navigation, Vol. 16. PAR product, 22(ch. 8). see also PAR product. along-scan effects, 10(ch. 5). atmospheric, 10(34, Figs. 19-21 pp. 35-36, 38). scan angle, 10(Figs. 22-24 pp. 36-37, 38). AMT-5, Vol. 2; 3(11). ammonium uptake, 2(36-37). biogasses, 2(37-39, Fig. 20 p. 38). biogenic sulphur, 2(39, Fig. 21 p. 40). bottle log, 2(Table C2 p. 57-65). bridge log, scientific, 2(Table B1 pp. 48-56). CHN sample log, 2(Table M1 p. 94). crew members, 2(Table A1 p. 47). cruise participants, 2(108-109).

```
cruise strategy, 2(2-4, Table 1 p. 3).
  cruise track, 2(4-8, Fig. 1 p. 5).
  CTD station, 2(Table C1 p. 57).
  DOC buffer log, 2(Table O1 pp. 95-107).
  FRRF, 2(27, Table H1 pp. 78-85).
  Guanidinium buffer log, 2(Table O2 p. 107).
  instrumentation, 2(19-25, 27).
  in-water optics, 2(19-24, Fig. 14 p. 23).
  LoCNESS station log, 2(Table E3 p. 72).
  microzooplankton, 2(41-43, Fig. 22 p. 42, Table N1 p. 95).
  nitrate uptake, 2(36-37, Table K1 p. 92).
  nutrients, 2(35-36, Table J1 p. 92).
  OPC sample log, 2(Table L1 pp. 92-93).
  physical oceanography, 2(8-13, Figs. 2-9 pp. 9-12).
  phytoplankton pigment distributions, 2(31-32, Fig. 18 p. 33).
  primary productivity, 2(32, 35).
  research reports, 2(8-43).
  ROSSA, 2(14, 16-19, Fig. 12 p. 16, Fig. 13 p. 18).
  SeaFALLS station log, 2(Table E2 pp. 69-71).
  SeaOPS station log, 2(Table E1 pp. 67-69).
  seawater filtration, 2(27, 31, Table I1 p. 78).
  SeaWiFS, calibration and validation of, 2(43-46, Fig. 23
    pp. 45-46).
  station filtration log, 2(Table I2 pp. 85-91).
  sun photometer, 2(25-27, Figs. 16-17 pp. 28-30, Table F1
    pp.73-77).
  surface optics, 2(24-25, Fig. 15 p. 25).
  TOPEX, 2(13-14, Figs. 10-11 p. 15).
  UOR optics, 2(27).
  XBT casts, 2(Table D1 pp. 65-67).
  XOBT cast log, 2(Table G1 p. 77).
  zooplankton, 2(39-41, Table M1 p. 94).
archived products, 9(Table 2 pp. 8-9).
Atlantic Meridional Transect, see AMT-5.
atmospheric correction, 22(ch. 5).
  aerosol look-up tables, 9(58-60, Table 13 p. 58, Fig. 35 p. 59,
    Table 14 p. 60, Fig. 36 p. 61).
  Ångström exponent, 9(62-63, Fig. 37 p. 62).
  coastal waters, 22(ch. 9).
  conclusions, 22(59).
  Rayleigh tables, 9(62).
  transmittance tables, 9(60).
  water absorption, 22(52, Table 9 p. 52).
  whitecap contributions, 9(60, 62).
atmospheric correction algorithm, 9(57-58); 22(ch. 5, 52-56,
    Figs. 33–35 pp. 55–56).
  aerosol modeling ambiguity, 22(33).
  clear conditions, 22(30-31).
  Fresnel transmittance, 22(Fig. 25 p. 32, 33).
  out-of-band correction, 22(31-33, Fig. 24 p. 32).
  relative noise reduction, 22(29-30, Fig. 23 p. 31).
  results, 22(56-59, Figs. 36-41 pp. 57-59).
  updates, 9(ch. 8).
atmospheric optical characteristics, 20(4-6).
atmospheric transmittance, 5(9, Figs. 4-5 pp. 10-11).
```

cruise report, Vol. 2.

atmospheric transmittance, cont. CIMEL (CE-318), see sun photometer. diffuser, 5(9-11, Tables 1-4 pp. 11-12). clear-water: attitude control system: analyses, 10(ch. 4). sensor processing, 16(Table 1 p. 5, 5-10, Fig. 1 p. 6, Fig. 2 radiance, 10(29, Table 9 p. 29, Fig. 12 p. 30). p. 8, Fig. 3 p. 9). time-series, 10(Figs. 12-18 pp. 30-33, 33). orbit processing, 16(2-5). cloud-top radiance, 9(ch. 2, Fig. 3 p. 14). Coastal Atmosphere and Sea-Time Series, see COASTS. -B-CoASTS, Vol. 19; Vol. 20. AAOT, 19(2-6, Fig. 2 p. 5). band 7: band 8 accuracy, 9(39, Table 10 p. 39). conclusions, 19(23); 20(20). calibration method, 9(40-41, Fig. 26 p. 40, Figs. 27-28 p. 41). data analysis, 20(2-17). vicarious calibration, 9(ch. 5). data and methods, 20(2). bilinear gain knee calibration, 9(ch. 2, Fig. 4 p. 15, Tables 3-4 data measurements, 19(13). p. 16). discussion, 20(17-20, Figs. 10-11 p. 18, Fig. 12 p. 19, Fig. 13 biogeochemical analysis, 23(11). environmental characteristics, 19(2-4, Table 1 p. 3, Fig. 1 -Cp. 4, Fig. 2 p. 5). environmental effects, 19(10-11). calibration, Vol. 7; Vol. 9; Vol. 10; Vol. 11. instruments and methods, 19(5-19). absolute, 19(6-7). measurement plan, 19(3, Fig. 3 p. 1). A/D, 7(Table 3 p. 7, 47, 49, Fig. 30 p. 50). measurement perturbations, 19(9-10). band 7, 9(ch. 5). measurements, 19(4-5, 11-19, Table 5 p. 11, Fig. 4 p. 13, bilinear gain knee, 9(ch. 2). Fig. 5 p. 15, Table 6 p. 15, Table 7 p. 16, Fig. 6 p. 17, Table 8 comparison, Optronic vs. NIST, 17(61). p. 18, Tables 8-9 p. 19). chronology and methods, 9(Fig. 1 p. 10). objectives, 19(3). coefficients, 7(66). optical properties, marine apparent, 20(16-17, Fig. 9 p. 17). field, 7(25-26, Fig. 16 p. 26, 32-34, Fig. 22 p. 33, Table 24 optical properties, marine inherent, 20(12-16, Fig. 7 pp. 13-14, Table 3 p. 14). lamp, 7(49-50, Fig. 31 p. 51). pigment measurements, 19(16-18, Fig. 6 p. 17, Table 8 p. 17). lunar, 9(ch. 3). sample data, 19(19-23, Figs. 7-9 pp. 20-22). near infrared, 9(44). site characteristics, 19(3-4, Table 1 p.4). NIST, 7(50-63, Table 35 p. 52, Tables 36-49 pp. 54-57, Tasubsurface values, 19(7-9, Fig. 3 p. 8). bles 50-53 p. 58, Table 54 p. 59, Figs. 32-35 pp. 60-62, Tacoccolithophore: ble 55 p. 63). algorithm, updated, 9(ch. 7). on-orbit, 22(ch. 2). tests, 9(51-56, Table 12 p. 52, Figs. 32-34 pp. 53-55). overview, 9(ch. 1). cumulative index, Vol. 6; Vol. 12; Vol. 18. solar, 9(ch. 4). CVT, 9(ch. 1). time series, 9(24, Figs. 10-13 pp. 25-26, 29). activities, 9(Table 1 pp. 6-8). vicarious, 9(ch. 5, ch. 6); 22(6-7, ch. 3). visible band, 9(44-50, Figs. 29-31 pp. 46-49, Table 11 p. 49). -Dsee also AMT-5, SeaWiFS. DalBOSS, 3(11-13, Figs. 10-11 p. 12, Fig. 13 p. 15, Table G1 see also vicarious calibration. pp. 34-35); 8(3, Table 1 p. 3, Fig. 1 p. 5, 12-13, Figs. 11-12 Calibration and Validation Team, see CVT. p. 12, 15, Fig. 13 p. 15). CE-318, see sun photometer. deployment log, 8(Table B1 pp. 25-27). chlorophyll a algorithm, 11(ch. 1, ch. 2). DalSAS, 3(10-11, Fig. 9 p. 11, Table F1 pp. 33-34). initial, updated [OC2v2], 11(ch. 1). DARR-94, **15**(1, 4). in situ data set, 11(10-15, Table 2 pp. 11-12, Tables 3-4 DARR-00, Vol. 15. pp. 12-14, Fig. 5 p. 14, Figs. 6-7 p. 16, Fig. 8 p. 17, Tacalibrated optical measurements, 15(9, Figs. 5-7 pp. 10-12, bles 5-7 p. 20). Figs. 8-10 pp. 13-15). OC2 and OC4, 11(15, Figs. 8-9 pp. 17-18, 19, Figs. 10-14 conclusions, 15(45). pp. 21-23). database, 15(Table B1 p.67). revised [OC4v4], 11(ch. 2). discussion, 15(40-45, Fig. 14 pp. 41-42, Fig. 15 pp. 43-44). SeaBAM data set, 11(3-7, Figs. 1-3 pp. 4-5, Table 1 p. 6, GSFC data processing system, 15(ch. 2). 7-8, Fig. 4 p. 7). instrumentation, 15(5-8). chlorophyll a match-up analysis, 10(ch. 7). JRC data processing system, 15(ch. 3, Fig. 17 p. 54). methods, 10(46-52, Fig. 27 p. 47, Fig. 28 pp. 49-50, Tables 12-14 pp. 50-51). methods, 15(9, 16). CHORS immersion factor method, 21(ch. 2). ProSoft optical data processor, 15(ch. 4).

```
DARR-00, cont.
                                                                  flags, cont.
                                                                    level-2 changes, 22(36-39, Fig. 26 p. 38).
  results, nonstandard, 15(29-40, Table 18 p. 30, Table 19 p. 32,
    Fig. 13 pp. 34-35, Table 20 p. 36, Tables 21-22 pp. 38-39).
                                                                    level-3 changes, 22(39).
  results, standard (V1), 15(16-29, Table 3 p. 17. Tables 4-5
                                                                    summary, 22(39-40, Fig. 27 p. 40).
    p. 18, Tables 6-7 p. 20, Fig. 11 p. 21, Tables 8-9 p. 22,
    Fig. 12 p. 23, Tables 10–11 p. 24, Tables 12–15 pp. 26–27,
                                                                                              -G-
    Tables 16–17 pp. 28–29).
                                                                  global clear-water analyses, 10(ch. 4).
  science team, 15(66).
                                                                  glossary:
  see also instrumentation.
                                                                    cumulative, 6(5-7); 12(10-13); 18(10-14).
  see also LoCNESS.
                                                                  ground measurements, 5(11-12).
  see also miniNESS.
  see also SeaOPS.
                                                                                              -H-
  see also THOR.
  see also WiSPER.
                                                                  HDS, 23(Fig. 2 p. 6, ch. 2).
                                                                    description, 23(12-14, Figs. 8-9 p. 13, Fig. 10 p. 14, Table 3
data:
  collection, 21(11, Table 4 p. 11, 15, Table 7 p. 15, 20, Table 10
                                                                      p. 14).
                                                                  horizontal deployment system, see HDS.
  presentation, 21(24).
                                                                  Horn Point Laboratory, see HPL.
  processing, 21(11, 15, 20).
                                                                  HPL:
  set, 21(29-30, Table 12 p. 30).
                                                                    quantitative equation, 14(38).
  see also SIRREX-8.
                                                                  HPLC Analysis Round Robin, Vol. 14.
data analysis:
                                                                    column characteristics, 14(Table 3 p. 7).
  MOBY, 9(ch. 6).
                                                                    conclusions, 14(18-20, Tables 10-11 p. 19, 26, 29, 32, 35).
  SIRREX-8, 21(30-32, Tables 13-14 p. 31, Tables 15-16 p. 33).
                                                                    data set, 14(5-7).
  see also SIRREX-8.
                                                                    extraction specifications, 14(Table 2 p. 7).
data analysis round-robin, see DARR-94 and DARR-00.
                                                                    methods, 14(7-8).
data analysis system:
                                                                    results, 14(8-18).
  GSFC, 15(ch. 2).
                                                                    solvent systems, 14(Table 4 p. 7).
  JRC, 15(ch. 3).
                                                                    UPD values, 14(Fig. 2 p. 9, Table 5 p. 10, Fig. 3 p. 11, Ta-
                                                                      ble 6 p. 11, Fig. 4 p. 12, Table 7 p. 12, Fig. 5 p. 13, Figs. 6-7
data policy:
                                                                      pp. 14-15, Figs. 8-9 p. 16, Fig. 10 p. 17, Table 8 p. 17, Ta-
  SeaWiFS Project, in situ, 12(4-5).
                                                                      ble 11 p. 19)
data processing methods:
                                                                    see also SeaHARRE.
  advances in, 23(ch. 4).
                                                                  HPLC manufacturers, 14(37–38).
  exact [L_W]_N formulation, 23(21-23).
                                                                  HPLC technique, 3(15-16, Table E1 p. 32; 23(4).
  irradiance ratio, 23(20-21, Fig. 11 p. 21).
                                                                  HYDROSCAT-6, 23(10).
data screening procedures, 22(20-21).
detector-based radiometry, see SXR.
                                                                                               -I-
diffuse attenuation coefficient, 11(ch. 3).
                                                                  immersion factor:
  data and methods, 11(25).
                                                                    CHORS immersion factor method, 21(ch. 2).
  results, 11(25, Figs. 15-16 p. 26).
                                                                    computing, 21(ch. 5).
                            -E-
                                                                    JRC method, 21(ch. 3).
                                                                    Satlantic method, 21(ch. 4).
effects:
                                                                  in-air studies, 7(13-25, Figs. 4-5 p. 14, Fig. 6 p. 17, Tables 7-10
  environmental, 23(27-28, Fig. 17 p. 28).
                                                                      p. 18, Figs. 7-12 pp. 19-21, Tables 11-16 pp. 22-26,
  far-field, 23(24-27, Fig. 12 p. 25, Figs. 13-14 p. 26).
                                                                      Figs. 13-15 pp. 23-24).
  near-field, 23(27, Figs. 15-16 p. 27).
                                                                    analysis, 7(17-18).
environmental:
                                                                    measurement principles, 7(15-16).
  characteristics, 19(2-4, Table 1 p. 3, Fig. 1 p. 4, Fig. 2 p. 5).
                                                                    results, 7(18-22, Tables 7-10 p. 18, Figs. 7-12 pp. 19-21, Ta-
  effects, 19(10-11); 23(27-28, Fig. 17 p. 28).
                                                                      bles 11–16 pp. 22–26, Figs. 13–15 pp. 23–24).
equipment:
                                                                  index entries, 6(3-4); 12(6-9); 18(4-9).
  in situ sampling, 23(ch. 1).
                                                                  index volumes, Vol. 6; Vol. 12; Vol. 18.
                                                                  in situ methods, 23(ch. 2).
                                                                  in situ sampling equipment, 23(ch. 1).
far-field effects, 23(24-27, Fig. 12 p. 25, Figs. 13-14 p. 26).
                                                                  instrumentation:
                                                                    AMT cruise, 2(19-25, 27).
flags, 22(6, ch. 6).
  effect analysis, 22(34-36, Table 7 p. 36).
                                                                    ancillary, 23(11).
```

instrumentation, cont. lamp standards, cont. AOP, 23(5-9, Figs. 3-4 p. 7, Figs. 5-6 p. 8, Fig. 7 p. 9, Table 1 experimental setup, 17(Fig. 4 p. 24). p. 9, Table 2 p. 10). uncertainties, 17(23, 59-61). atmospheric, 23(11). LoCNESS, 8(3-6, Table 1 p. 3, Table 2 p. 4, Fig. 1 p. 5, 7-8, DARR-00, 15(5-8). Fig. 4 p. 7, 16, Fig. 14 p. 19); 15(5, 6, Fig. 2 p. 6, 7, 8, Table B1 p.67; 23(5, 7). IOP, 23(10-11). SeaBOARR-98, 3(2-17, Table 1 p. 3, Fig. 1 p. 4, Table 2 p. 4, data file, 15(Fig. 16 p. 48). Fig. 2 p. 5, Fig. 3 p. 6, Figs. 4-5 p. 7, Figs. 6-7 pp. 8-9, deployment log, 8(Table C1 pp. 27-29). Figs. 8-9 pp. 10-11, Figs. 10-12 pp. 12-13, Fig. 13 p. 15, station log, 2(Table E3 p. 72). Figs. 14–15 p. 17). lunar calibration, see calibration, lunar. SeaBOARR-99, 8(3-14, Table 1 p. 3, Tables 2-3 p. 4, Fig. 1 lunar data analysis, 9(ch. 3). p. 5, Figs. 2-3 p. 6, Fig. 4 p. 7, Figs. 5-6 p. 8, Figs. 7-8 p. 9, normalizing factors, 9(18-20, Figs. 6-8 pp. 21-22, Fig. 9 Fig. 9 p. 10, Fig. 10 p. 11, Figs. 11-12 p. 12, Fig. 13 p. 15). p. 23); 22(14, 17-18, Figs. 11-12 p. 18). SeaPRISM, 13(2-10, Table 1 p. 3, Table 2 p. 10, Fig. 1 p. 4, time corrections, 9(24, Figs. 10-13 pp. 25-26). Figs. 2-3 p. 5, Fig. 4 p. 6, Figs. 5-6 p. 7, Figs. 7-8, p. 9, Figs. 9-10 p. 9, Figs. 11-12 p. 10, Table 4 p. 16, Table 5 pp. 15-17, Figs. 13-14 p. 18, Fig. 15 p. 19). -M-SIRREX-7, 17(ch. 2). Marine Environmental Radiometer, see MER. tower-perturbation measurements, 23(ch. 1). masks, 22(6, 7, ch. 6). see also SeaPRISM. changes, 22(Table 6 p. 35). see also SIRREX-7. see also flags. integrating sphere sources, Vol. 1; Vol. 4. measurement: see also SXR. cosine response, 21(ch. 6). intercalibration, Vol. 7. plan, 19(3, Fig. 3 p. 1). interference filter, see SXR. perturbations, 19(9-10). in-water methods: protocol, 21(10-11, Table 3 p. 11, 14-15, Table 6 p. 15, 19-20, see methods, in-water. Table 9 p. 20). see SeaPRISM. system, 21(17-19, Fig. 4 p. 18, Table 8 p. 19). in-water studies, 7(8-13, Fig. 1 p. 9, Table 5 p. 10, Fig. 2 p. 11, MER, 11(ch. 4). Fig. 3 p. 13, Table 6 p. 13). ICESS facility and methods, 11(28-33, Fig. 17 p. 30, Table 8 results, 7(12-13). p. 31, Fig. 18 p. 32, Table 9 p. 33). irradiance, 7(59, Table 54 p. 59). immersion effects, 11(43, Table 15 p. 44, Fig. 26 p. 44). irradiance calibrations, uncertainties, 17(ch. 6). long-term averages, 11(41-43, Tables 12-13 p. 42, Table 14 ambient measurements, 17(44-46, 63). experimental setup, 17(Fig. 21 p. 43, Fig. 23 p. 45). plaque aging, 11(Fig. 24 p. 40, 43, 45). repeatability, 17(42-44). quality control measures, 11(45, Fig. 27 p. 45). irradiance field source, 7(25-34). results, 11(33-41, Fig. 19 p. 34, Fig. 20 p. 36, Table 10 p. 37, field calibrator, 7(25-26, Fig. 16 p. 26, Table 23 p. 33). Figs. 21-24 pp. 38-40, Fig. 25 p. 41, Table 11 p. 41). irradiance values, 7(Table 17 p. 27). methods: results, 7(27-34, Tables 18-19 p. 28, Fig. 17 p. 29, Table 20 above-water, 23(16). p. 29, Fig. 18 p. 30, Table 21 p. 30, Figs. 19-21 p. 32, Taancillary, 23(19). ble 22 p. 32, Fig. 22 p. 33, Table 23 p. 33). AOP, 23(15-17). see also calibration, field. atmospheric, 23(18-19). biogeochemical, 23(18). -J-CDOM, 23(18). JRC immersion factor method, 21(ch. 3). data processing, see data processing methods. in situ, 23(ch. 3). - K in-water, 23(16). K(490), see diffuse attenuation coefficient. IOP, 23(17-18). MFR-6, 3(17, Fig. 15 p. 17 table E1 p. 32); 19(4, 7, 11).~LmicroNESS, 23(4, 7-8, Table 1 p. 9, Table 2 p. 10). LAC products: microSAS, 23(4, 8-9, Fig. 6 p. 8, Table 1 p. 9, Table 2 p. 10, comparison of, 22(ch. 10). Tables B1-B2 p. 30). conclusions, 22(67). miniNESS, 13(2, 3, Table 1 p. 3, 4-6, Table 2 p. 4, Fig. 2 p. 5, methods, 22(60-62). Fig. 3 p. 5, Fig. 4 p. 6); 15(5, 7, Fig. 3 p. 7, 8, Table 2 p. 8, results, 22(62-67, Figs. 43-47 pp. 63-67). 9, Table B1 p. 67); **23**(4, 7, Fig. 3 p. 7, Table 1 p. 9, Table 2 study area, NEC, 22(60, Table 10 p. 61, Fig. 42 p. 61). p. 10).

mirror-side correction, 22(19, Fig. 13 p. 19).

lamp standards, 17(ch. 3).

```
MOBY, 1(1-2).
                                                                  plaque lab, cont.
                                                                     results, 7(36-46, Tables 25-27 p. 37, Fig. 23 p. 38, Tables 28-
   data analysis, 9(ch. 6).
                                                                       30 p. 39, Figs. 24–27 pp. 40–43, Tables 31–32 p. 44, Fig. 28
   stray light correction, 22(6, 20-22, Fig. 14 p. 22).
                                                                       p. 45, Table 33 p. 46, Table 34 p. 47).
   vicarious gains, 22(21-22, Fig. 15 p. 22).
                                                                     see also SIRREX-5.
   see also calibration.
                                                                  plaque standards:
                                                                     experimental setup, 17 (Fig. 9 p.29).
                             -N-
                                                                  plaque uniformity, 17(31-33).
navigation, Vol. 16.
                                                                     experimental setup, 17(Fig. 11 p. 32).
   algorithms, 16(1-2).
                                                                  primary productivity, 2(32, 35).
near-field effects, 23(27, Figs. 15-16 p. 27).
                                                                  processing changes, level-1a and level-3, 22(ch. 7).
near-infrared, see NIR.
                                                                     navigation update, 22(43-44, Figs. 28-29 pp. 44-45).
NIR correction, 22(7, 21, ch. 4, ch. 9).
                                                                    spacebin modifications, 22(44-45).
   absorption coefficients, 22(27-28, Fig. 22 p. 27, Table 5 p. 28).
                                                                    time tag glitch handling, 22(41-43).
   backscatter model, 22(26-27).
                                                                  product:
  concept, 22(53).
                                                                    archived, 9(Table 2 pp. 8-9).
  scaling factor, 22(28).
                                                                    evaluations, 9(9).
NIR iteration:
                                                                     quality control (QC), 9(11).
  application, 22(54, 56).
                                                                    validation, 9(10-11).
  bio-optical models, 22(53-54, Figs. 33-35 pp. 55-56).
                                                                    see also QC products.
  control, 22(28).
                                                                  PROSOPE cruise, 14(4, Fig. 1 p. 5, Table 1 p. 5)).
   results, 22(56-59, Figs. 36-41 pp. 57-59).
                                                                     see also SeaHARRE.
NIR noise reduction, 22(7).
                                                                                               – Q –
normalized water-leaving radiance, 10(ch. 7).
                                                                  QC products, 9(11).
                             ~ O -
                                                                                               -R
operational SeaWiFS processing, 10(ch. 3).
                                                                  radiance, 7(59).
  fourth reprocessing, Vol. 22.
                                                                    cloud-top, 9(ch. 2, Fig. 3 p. 14).
  second reprocessing, 10(12-18, Table 3 p. 13, Fig. 5 p. 16,
     Fig. 6 p. 17, Table 7 p. 24).
                                                                    normalized water-leaving, 10(ch. 7).
  third reprocessing, 10(18-28, Table 4 p. 19, Table 5 p. 23,
                                                                  radiance calibrations, uncertainties:
     Table 6 p. 23, Table 7 p. 27, Figs. 7-9 pp. 25-26, Figs. 10-11
                                                                    ambient measurements, 17(37-41).
     p. 27).
                                                                    ambient measurements, experimental setup, 17(37-41,
optical characteristics, atmospheric, 20(4-6).
                                                                      Fig. 17 p. 38, Fig. 18 p. 39).
optical properties:
                                                                    experimental setup, 17(Fig. 15 p. 36).
  marine apparent, 20(16-17, Fig. 9 p. 17).
                                                                    repeatability, 17(35-37).
  marine inherent, 20(12-16, Fig. 7 pp. 13-14, Table 3 p. 14).
                                                                  radiometer, Vol. 7.
  see also CoASTS.
                                                                    see also SXR.
optics:
                                                                  radiometric calibration, Vol. 4; Vol. 5; Vol. 7.
  in-water, 2(19-24, Fig. 14 p. 23); 7(8-13, Fig. 1 p. 9, Table 5
                                                                    1993 calibration, 4(2-6, Tables 1-3 p. 3, Table 4 p. 4); 5(13,
    p. 10, Fig. 2 p. 11, Fig. 3 p. 13, Table 6 p. 13).
                                                                      Table 5 p. 13, Figs. 6-7 p. 15, Table 15 p. 18).
  surface, 2(24–25, Fig. 15 p. 25).
                                                                    1997 calibration, 5(13, Table 5 p. 13, Figs. 6-7 p. 15, Table 15
orbit processing, 16(2-5).
                                                                      p.18).
                                                                    measurement procedures, 4(9-14, Table 8 p. 13).
ozone, see TOMS ozone.
                                                                    SeaWiFS results, 4(21-38, Tables 14-15 pp. 24-25, Tables
                                                                      16-17 pp. 26-27, Figs. 6-8 pp. 29-30, Tables 18-21 pp. 31-
                            -P-
                                                                      33, Tables 22-23 p. 35, Figs. 9-11 pp. 36-38).
PAR product, 22(ch. 8).
                                                                    SXR, 4(6-7, Table 6 p. 7, 10, 12-17, Figs. 1-2 pp. 15-16,
  algorithm description, 22(46-48).
                                                                      Table 10 p. 17, Fig. 3 p. 18, 18-19).
  in situ match-up comparison, 22(Figs. 30-32 p. 48, Table 8
                                                                    test equipment, 4(6-9, Table 6 p. 7, Table 7 p. 8).
    p. 49, 49-50).
                                                                    uncertainty analysis, 4(39-43, Tables 24-29 pp. 40-43,
phytoplankton pigment:
                                                                      Figs. 12-13 pp. 45-46).
  concentration, 20(6-9, Table 2 p. 7, Fig. 4 pp. 8-9).
                                                                 references:
  distributions, 2(31-32, Fig. 18 p. 33).
                                                                    cumulative, 6(9-13); 12(6-9); 18(15-26).
photosynthetically available radiation, see PAR product.
                                                                 reflectance equations:
pigment measurements, 19(16-18, Fig. 6 p. 17, Table 8 p. 17).
                                                                    band-averaged center wavelength, 5(5-6).
plaque lab, 7(34-46).
                                                                    band-averaged spectral radiance, 5(5).
```

reflectance equations, cont. BRDF, 5(3-4, Fig. 1 p. 4). SBRC basic equation, 5(6, Fig. 2 p. 7). solar radiation-based calibration, 5(3-6). spectral response, 5(4-5). transfer-to-orbit experiment, 5(22, Tables 19-20 p. 23). reprocessing, fourth, Vol. 22. atmospheric correction algorithm, 22(ch. 5). atmospheric correction, coastal water, 22(ch. 9). conclusions, 22(10-11, 59, 67). LAC products comparison, 22(ch. 10). masks and flags, 22(ch. 6). motivation, 22(5-6). NIR correction, modifications, 22(ch. 4). on-orbit calibration, 22(ch. 2). PAR product, 22(ch. 8). processing changes, level-1a and level-3, 22(ch. 7). solutions, **22**(6-8). summaries, 22(19, 25, 39-40, Fig. 27 p. 40). testing and evaluation, 22(8-9, Table 1 p. 9). vicarious calibration, 22(ch. 3). see also atmospheric correction. see also NIR. see also PAR product. see also processing changes. see also vicarious calibration. reprocessing, third, Vol. 9; Vol. 10; Vol. 11. rotation and polarization, uncertainties, 17(ch. 7). experimental setup, 17(Fig. 26 p. 49, Fig. 27 p. 50, Fig. 29 p. 52). polarization effects, 17(51-53, Table 11 p. 53, 63). rotation effects, 17(47-51, Table 10 p. 51, 63). round-robin experiment, Vol. 7; Vol. 17; Vol. 21. see also SIRREX. -S-Satlantic immersion factor method, 21(ch. 5). SeaBOARR, Vol. 3; Vol. 8; 13(2). DalBOSS, 3(11-13, Figs. 10-11 p. 12, Fig. 13 p. 15, Table G1 pp. 34-35); 8(3, Table 1 p. 3, Fig. 1 p. 5, 12-13, Figs. 11-12 p. 12, 15, Fig. 13 p. 15, Table B1 pp. 25-27). DalSAS, 3(10-11, Fig. 9 p. 11, Table F1 pp. 33-34).

instrumentation, 3(2-17, Table 1 p. 3, Fig. 1 p. 4, Table 2 p. 4, Fig. 2 p. 5, Fig. 3 p. 6, Figs. 4-5 p. 7, Figs. 6-7 pp. 8-9, Figs. 8-9 pp. 10-11, Figs. 10-12 pp. 12-13, Fig. 13 p. 15, Figs. 14-15 p. 17); 8(3-14, Table 1 p. 3, Tables 2-3 p. 4, Fig. 1 p. 5, Figs. 2-3 p. 6, Fig. 4 p. 7, Figs. 5-6 p. 8, Figs. 7-8, p. 9, Fig. 9 p. 10, Fig. 10 p. 11, Figs. 11-12 p. 12, Fig. 13 p. 15).

methods, 3(18-24, Fig. 16 p. 19, Table 3 p. 20, Table 4 p. 22); 8(14-19, Tables 4-5 p. 18).

preliminary results, 3(24-26, Table 5 p. 24, Fig. 17 p. 25); 8(19-22, Fig. 14 p. 19, Table 6 pp. 20-21, Fig. 15 p. 21, Fig. 16 p. 22, Tables 7-8 p. 22, Fig. 17 p. 23).

science team, 3(27); 8(24).

SeaBOSS, 8(3-7, Table 1 p. 3, Table 3 p. 4, Table B1 pp. 25-27).

SeaBOARR, cont. SeaFALLS, 2(Table E2 pp. 69-71); 8(3-7, Table 1 p. 3, Table 3 p. 4, Fig. 1 p. 5, Fig. 3 p. 6, Fig. 5 p. 8, Fig. 13 p. 15, 16, Fig. 14 p. 19, Table B1 pp. 25-27). SeaSAS, 3(7-8, Figs. 4-6 pp. 7-8, Table C1 pp. 30-31); 8(3-6, Table 1 p. 3, Table 2 p. 4, Fig. 1 p. 5, 8-9, Fig. 6 p. 8, Fig. 7 p. 9, 16-17, Table D1 pp. 30-36). SeaSHADE, 8(3-6, Table 1 p. 3, 8, 9, 11, Fig. 10 p. 11). SQM-II, 3(13-14, Fig. 13 p. 15, 23-24, Table H1 p. 35-36). SUnSAS, 8(3-6, Table 1 p. 3, Table 2 p. 4, Fig. 1 p. 5, 9-11, Fig. 8 p. 9, Fig. 9 p. 10, 16-17, Table E1 pp. 37-43). see also miniNESS. see also sun photometer. see also THOR. see also WiSPER. SeaBOSS, 8(3-7), Table 1 p.3, Table 3 p.4). deployment log, 8(Table B1 pp. 25-27). SeaFALLS, 8(3-7, Table 1 p. 3, Table 3 p. 4, Fig. 1 p. 5, Fig. 3 p. 6, Fig. 5 p. 8, Fig. 13 p. 15, 16, Fig. 14 p. 19, Table B1 pp. 25-27). deployment log, 8(Table B1 pp. 25-27). station log, 2(Table E2 pp. 69-71). SeaHARRE, Vol. 14. analysis, 14(22, Table 12 p. 22, 27-28, Table 15 p. 28, 30-31, Table 17 p. 31, 33-34, Table 19 p. 33). calibration standards, for pigments, 14(22-25, Table 13 pp. 23-24, Table 14 p. 25, 28, Table 16 p. 28, 31, Table 18 p. 31, 34, Table 20 p. 34). data products, 14(25, 29, 31-32, 34-35). extraction, 14(21-22, 27, 30, 33). HPL method, **14**(*ch.* 2). JRC method, **14**(ch. 3). LPCM method, 14(ch. 4). MCM method, 14(ch. 5). pigment abbreviations, 14(37). PROSOPE cruise, 14(4, Fig. 1 p. 5, Table 1 p. 5). science team, 14(36).

validation, 14(25, 28-29, 31, 34).

see also HPLC Analysis Round Robin.

SeaOPS, 15(5, 6, Fig. 1 p. 6, 8, Table B1 p. 67).

station log, 2(Table E1 pp. 67-69).

SeaPRISM, Vol. 13; 23(4, 5).

above-water methods, 13(11-14).

deployment logs summary, 13(Table 5 pp. 15-17).

field commissioning, 13(2).

field team, 13(20-21).

instrumentation, 13(2-10, Table 1 p. 3, Table 2 p. 10, Fig. 1 p. 4, Figs. 2-3 p. 5, Fig. 4 p. 6, Figs. 5-6 p. 7, Figs. 7-8 p. 9, Figs. 9-10 p. 9, Figs. 11-12 p. 10, Table 4 p. 16, Table 5 pp. 15-17, Figs. 13-14 p. 18, Fig. 15 p. 19); 23(9, Fig. 7) p. 9, Table 1 p. 9, Table 2 p. 10).

in-water methods, 13(10-11).

preliminary results, 13(14-19, Table 4 p. 14, Table 5 pp. 15-17, Figs. 13–14 p. 18, Fig. 15 p. 19).

protocols, **13**(13–14).

see also miniNESS.

see also sun photometer.

see also WiSPER.

```
SeaPRISM, cont.
                                                                  SIRREX-7, cont.
  see also SUnSAS.
                                                                    uncertainties, 17(23).
SeaSAS, 3(7-8, Figs. 4-6 pp. 7-8, Table C1 pp. 30-31); 8(3-6,
                                                                    XZ-Mapper, 17(21-22).
    Table 1 p. 3, Table 2 p. 4, Fig. 1 p. 5, 8-9, Fig. 6 p. 8, Fig. 7
                                                                    see also absolute calibration, SQM and SQM-II.
    p. 9, 16-17, Table D1 pp. 30-36).
                                                                    see also irradiance calibrations.
SeaSHADE, 8(3-6, Table 1 p. 3, 8, 9, 11, Fig. 10 p. 11).
                                                                    see also lamp standards, uncertainties.
SeaWiFS Bio-Optical Algorithm Round-Robin, see Sea-
                                                                    see also plaque standards.
    BOARR.
                                                                    see also radiance calibrations.
SeaWiFS Quality Monitor, see SQM.
                                                                    see also rotation and polarization, uncertainties.
SeaWiFS Transfer Radiometer, see SXR.
                                                                    see also SOM.
SIMBAD, 13(2-5, Table 1 p. 3, Table 2 p. 4, Fig. 2 p. 5).
                                                                    see also SQM-II.
  protocols, 13(12-13).
                                                                  SIRREX-8, Vol. 21.
SIRREX, Vol. 7; Vol. 17.
                                                                    CHORS immersion factor method, 21(ch. 2).
SIRREX-1, 7(1-3).
                                                                    conclusions, 21(32-34, Figs. 10-11 p. 33, Table 17 p. 33).
SIRREX-2, 7(1-3).
                                                                    cosine response measurements, 21(ch. 6).
SIRREX-3, 7(1-3).
                                                                    data analysis, 21(30-32, Tables 13-14 p.31, Tables 15-16
SIRREX-4, 7(1-3).
                                                                      p.32).
SIRREX-5, Vol. 7.
                                                                    data collection, 21(11, Table 4 p. 11, 15, Table 7 p. 15, 20,
  agenda, 7(4-5, Table 1 p. 5).
                                                                      Table 10 p. 20).
  conclusions, 7(67).
                                                                    data presentation, 21(24).
  in-air studies, 7(13-25, Figs. 4-5 p. 14, Fig. 6 p. 17, Tables 7-
                                                                    data processing, 21(11, 15, 20).
    10 p. 18, Figs. 7-12 pp. 19-21, Tables 11-16 pp. 22-26,
    Figs. 13-15 pp. 23-24).
                                                                    data set, 21(29-30, Table 12 p. 30).
  instruments, 7(5-7, Table 2 p. 6, Tables 3-4 p. 7).
                                                                   immersion factor computing, 21(ch. 5).
  in-water studies, 7(8-13, Fig. 1 p.9, Table 5 p.10, Fig. 2
                                                                   instrumentation, 21(7, Table 1 p. 7, Fig. 1 p. 7).
    p. 11, Fig. 3 p. 13, Table 6 p. 13).
                                                                   JRC immersion factor method, 21(ch. 3).
  irradiance field source, 7(25-34).
                                                                   laboratory setup, 21(8-10, Fig. 2 p. 9, Table 2 p. 10, 12-13,
  NIST calibrations, see calibrations, NIST.
                                                                      Fig. 3 p. 13, Table 5 p. 13).
  participants, 7(67-71).
                                                                   measurement protocol, 21(10-11, Table 3 p. 11, 14-15, Ta-
  plaque lab, 7(34-46).
                                                                      ble 6 p. 15, 19-20, Table 9 p. 20).
  see also plaque lab.
                                                                   measurement system, 21(17-19, Fig. 4 p. 18, Table 8 p. 19).
SIRREX-7, Vol. 17.
                                                                   objectives, 21(6).
  absolute calibration, SQM and SQM-II, 17(ch. 8).
                                                                   overview, 21(ch. 1).
  agenda, 17(7-8, Table 2 p. 9).
                                                                   preliminary inquiries, 21(25–26, Fig. 7 p. 26).
  ancillary equipment, 17(22, Table 9 p. 22).
                                                                   processing requirements, 21(21-22, Fig. 5 p. 22).
  bidirectional effects, 17(33-34, 62-63).
                                                                   results, 21(ch. 7).
  commercial radiometers, 17(18).
                                                                   Satlantic immersion factor method, 21(ch. 4).
  discussion, 17(ch. 9).
                                                                   schedule, 21(6-7).
  experimental setup, 17(Fig. 4 p. 24).
                                                                   science team, 21(35).
  facility, 17(8, Fig. 1 p. 8, 10, Fig. 2 p. 10).
                                                                   summaries, 21(11, 15-16, 20, 24, 28).
  instrumentation, 17(ch. 2).
                                                                 solar data analysis, 9(ch. 4).
  irradiance calibrations, uncertainties, 17(ch. 6).
                                                                   calibration, 9(28-37, Figs. 15-24 pp. 30-34, Fig. 25 p. 36).
  lamps, 17(16-17, Table 5 p. 17, Fig. 12 p. 32, Fig. 13 p. 33).
                                                                 solar irradiances, 5(7-9, Tables 10-16 pp. 17-19).
  lamp standards, uncertainties, 17(ch. 3, 23, 59-61, Fig. 33
                                                                   6S, 5(16, Table 12 p. 17, Table 13 p. 18, Table 16 p. 19).
    p.60).
                                                                   band-averaged, 5(16, Table 10 p. 17, Table 12 p. 17, Table 14
 objectives, 17(7).
                                                                      p. 18).
  overview, 17(ch. 1).
                                                                   Fraunhofer lines, 5(19-21, Fig. 9 p. 20, Table 18 p. 21).
  plaques, 17(17-18, Table 6 p. 18).
                                                                   MODTRAN, 5(16, Tables 10-11 p. 17, Table 16 p. 19).
  plaque standards, uncertainties, 17(ch. 4, Fig. 35 p. 62).
                                                                   SeaWiFS, 5(Table 16 p. 19).
 procedures, 17(10-15, Table 3 p. 11, Table 4 p. 12).
                                                                   Thuiller, 5(16, Tables 14-17 pp. 18-19, Table 17 p. 19).
 radiance calibrations, uncertainties, 17(ch. 5, Fig. 35 p. 62).
                                                                   Wehrli, 5(13-16, Table 7 p. 14, Table 9 p. 14, Table 16 p. 19).
 rotation and polarization, uncertainties, 17(ch. 7).
                                                                 solar radiation-based calibration, 5(1-21).
 science team, 17(65).
                                                                   calibration coefficients, 5(13, Tables 5-9 pp. 13-14, Figs. 6-7
 SQM-II, 17(21, Table 8 p. 21, ch. 8).
                                                                      p. 15, Tables 10-15 pp. 17-18).
 summary, 17(ch. 9, Table 13 p. 60, Fig. 33 p. 60, 64, Table 14
                                                                   reflectance equations, 5(3-6).
 SXR, 17(18-19, Table 7 p. 19).
                                                                   risks and disadvantages, 5(2).
```

```
spectral band-pass:
  analyses, 10(ch. 2).
  corrections, 10(Fig. 4 pp. 9-10, 10-11, Table 2 p. 11).
  distribution, 10(Fig. 3 p.8).
  effects, 10(8-10).
  response function, 10(Fig. 2 pp. 7-8).
spectral radiance, 4(19-21, Fig. 3 p. 18, Figs. 4-5 p. 20, Ta-
     bles 11-13 p. 21).
  see also SXR.
spectral response, 5(7, Fig. 3 p. 8, 19-21, Fig. 8 p. 19).
SQM, 7(46-47, Fig. 29 pp. 48-49); 8(13-14, Fig. 13 p. 15, 18-19,
     22-24, Fig. 17 p. 23, Table F1 pp. 43-44); 17(19-20, Fig. 3
     p. 20, ch. 8).
SQM-II:
  see SeaBOARR.
  see SIRREX-7.
  see SOM.
sun glint contamination, 9(ch. 9).
  SeaWiFS mask, 9(65).
  wind speed data, 9(65, \text{Fig. } 38 \text{ p. } 66).
sun photometer, 2(25-27, Figs. 16-17 pp. 28-30, Table F1
     p. 73-77); 3(Table E1 p. 32); 13(2, 3, Table 1 p. 3, Table 2
     p. 4, Fig. 2 p. 5, 9-10, Fig. 12 p. 10); 19(4, Table 2 p. 6);
     23(11).
SUnSAS, 8(3-6, Table 1 p. 3, Table 2 p. 4, Fig. 1 p. 5, 9-11,
     Fig. 8 p. 9, Fig. 9 p. 10, 16-17, Table E1 pp. 37-43); 13(2-3,
     Table 1 p. 3, Table 2 p. 4, Fig. 1 p. 4, Fig. 2 p. 5, 7-8,
     Figs. 7-8, p. 8).
  deployment log, 8(Table E1 pp. 37-43).
  protocols, 13(11-12).
  see also above-water methods.
SXR, Vol. 1; Vol. 4.
  description of, 1(1-2, \text{ Table 1 } p. 2).
  electrical subsystems, 1(11-14, Table 3 p. 12, Fig. 9 p. 12, uncertainties, see SIRREX-7.
     Tables 4-5 p. 13, Table 6 p. 14, Table 7 p. 15).
  instrument design, 1(2-16, Table 2 p. 3, Fig. 1 p. 3, Figs. 3-8
    pp. 7-9, Fig. 9 p. 12, Table 3 p. 12, Tables 4-5 p. 13, Table 6
    p. 14).
  measurement channels, 1(4-6, Fig. 2 p. 5).
  measurements, 1(50-52), Tables 17-18 p. 52; 4(12-17)
    Figs. 1-2 pp. 15-16, Table 10 p. 17, Fig. 3 p. 18, 18-19).
  measurement wavelengths, 7(Table 27 p. 37).
  parts used, 1(Table A1 p. 55).
  performance analysis, 1(16-50).
  relative flux response, 1(38-43, Table 13 p. 39, Fig. 22 pp. 40-
  relative spatial response, 1(28-38, Figs. 16-21 pp. 29-37, Ta-
    bles 11-12 pp. 38-39).
  relative spectral response, 1(19-27, Figs. 10-15 pp. 21-26,
    Tables 9-10 p. 27).
  signal voltage, 1(Table 16 p. 46, Fig. 24 pp. 47-49).
  spectral radiance, 1(Table 14 p. 44, Table 15 p. 45, Fig. 23
    p. 45); 4(Table 6 p. 7, Table 10 p. 17, Fig. 3 p. 18, Fig. 4
    p. 20).
 studies, 7(59, 63, Table 55 p. 63, Figs. 36–38 pp. 64–65).
```

-T-

Figs. 3-10 pp. 15-17).

temperature correction, 22(12-14, Figs. 1-2 p. 13, Table 2 p. 13,

THOR, 3(6, Fig. 4 p. 7); 8(3, 7, Fig. 5 p. 8); 15(6). TOMS ozone, 9(ch. 10). chlorophyll comparison, 9(72, Figs. 44-45 pp. 72-73). new ozone scheme, 9(69-70, Figs. 41-42 p. 70). ozone comparison, 9(71-72, Fig. 43 p.71). tower-perturbation: above-water radiometry, Vol. 23. data processing methods, 23(ch. 4). emphasis on, 23(4-5). horizontal deployment system, 23(Fig. 2 p. 6, ch. 2). in situ methods, 23(ch. 3). in situ sampling equipment, 23(ch. 1). instruments used, 23(4-5, 5-11, Fig. 2 p.6, Figs. 3-4 p.7, Figs. 5-6 p. 8, Fig. 7 p. 9, Table 1 p. 9, Table 2 p. 10). measurements, Vol. 23. preliminary results, 23(ch. 5). science team, 23(29). see also data processing methods. see also HDS. see also methods. tower-shading: correction factors, 19(7-9, Fig. 3 p. 8, Tables 3-4 p. 9). transfer radiometer, Vol. 1; Vol. 4. see also SXR. transfer-to-orbit experiment, Vol. 5. concept, 5(21). in-flight measurements, 5(22-25, Fig. 10 p. 24, Table 21 p. 25, Fig. 11 p. 25). reflectance equations, 5(22, Tables 19-20 p. 23). -U--Vvalidation, Vol. 9; Vol. 10; Vol. 11. overview, 9(ch. 1). product, 9(10-11). vicarious calibration, 22(ch. 3). data-screening procedures, 22(20-21). gains, 22(Figs. 15-21 pp. 22-24, Table 3 p. 25, 25). stray light correction, 22(20-21, Fig. 14 p. 22). -W, X-

WiSPER, 3(9-10, Figs. 7-8, pp. 9-10, 18, Fig. 16 p. 19, Table D1 p. 32); 13(2-5, Table 1 p. 3, Table 2 p. 4, Fig. 2 p. 5, 6-7, Figs. 5-6 p. 7); **15**(5, 7, Fig. 3 p. 7, 7, 8, Table 2 p. 8, 9, Table B1 p. 67); 19(4, 5-7, Table 2 p. 6); 23(4, Table 1 p. 9, Table 2 p. 10).

-Y, Z-

Yamoto Bank Optical Mooring, see YBOM. YBOM, 19(1-2).

GLOSSARY

6S Not an acronym, but an atmospheric photochemical and radiative transfer model.

-A-

A/D Analog-to-Digital

AAOT Acqua Alta Oceanographic Tower

AC Alternating Current

ACS Average Calibration Slope or Attitude Control System (depending on usage).

ADCP Acoustic Doppler Current Profiler

ADEOS Advanced Earth Observing Satellite

AERONET Aerosol Robotic Network

AI Absorbing Aerosol Index

AI9901 Atlantic-Indian Ocean Cruise, 1999

ALOHA A Long-term Oligotrophic Habitat Assessment

AMJ April-May-June

AMT Atlantic Meridional Transect

AMT-1 The First AMT Cruise

AMT-2 The Second AMT Cruise

AMT-3 The Third AMT Cruise

AMT-5 The Fifth AMT Cruise

AMT-8 The Eighth AMT Cruise

AOP Apparent Optical Property

AOPs Apparent Optical Properties

AOT Aerosol Optical Thickness

APD Absolute Percent Difference

ARGOS Not an acronym, but the name given to the data collection and location system on the NOAA operational satellites.

ASAP Artificial Satellite Analysis Program

ASCII American Standard Code for Information Interchange

ASD Analytical Spectral Devices

ASTER Advanced Spaceborne Thermal Emission and Reflection Radiometer

ASTM American Society for Testing and Materials

ATA Ambient Temperature Plate Assembly

ATSR Along-Track Scanning Radiometer

AU Astronomical Unit

AVHRR Advanced Very High Resolution Radiometer

-B-

BAS British Antarctic Survey

BATS Bermuda Atlantic Time-series Study

BBOP Bermuda BioOptics Project

BCD Binary Coded Decimal

Ber95 Bering Sea Cruise, 1995

Ber96 Bering Sea Cruise, 1996

BNC Bayonet Nut Connector

BNL Brookhaven National Laboratory

BOPSII Bio-Optical Profiling System II (second generation)

BOUSSOLE Bouée pour l'acquisition de Séries Optiques à Long Terme (buoy for the acquisition of a long-term optical series).

BPA Back Plate Assembly

BRDF Bidirectional Reflectance Distribution Function

BSI Biospherical Instruments, Inc.

BSST Bulk Sea Surface Temperature

BTBM Bermuda Test Bed Mooring

-C-

C/CSC NOAA Coastal Services Center, Charleston, South Carolina

CalCOFI California Cooperative Fisheries Institute

CANIGO Canary Islands, Azores, Gibraltar Observations

CARIACO Carbon Retention in a Colored Ocean

CB-MAB Chesapeake Bay-Middle Atlantic Bight

CC Cloud Cover

CCAR Colorado Center for Astrodynamics Research

CCD Charge-Coupled Device

CCMS Centre for Coastal and Marine Studies

CCN Cloud Condensation Nucleii

CCPO Center for Coastal Physical Oceanography

CDOM Colored Dissolved Organic Matter

CEC Commission of the European Communities

CERT Calibration Evaluation and Radiometric Testing

C-FALLS Combined (software package for logging) Sea-FALLS data

CHN Carbon-Hydrogen-Nitrogen

CHORS Center for Hydro-Optics and Remote Sensing

C-mount Not an acronym, but a mounting system for camera lenses.

CNR Consiglio Nazionale delle Ricerche (the Italian National Research Council)

CNRS Centre National de la Recherche Scientifique (the French National Institute of Scientific Research)

COARE Coupled Ocean Atmosphere Response Experi-

CoASTS Coastal Atmosphere and Sea Time Series

CoBOP Coastal Benthic Optical Properties (Bahamas)

COLORS Coastal Region Long-Term Measurements for Colour Remote Sensing Development and Validation

C-OPS Combined (software package for logging) Sea-OPS data.

COSMIC Computer Software Management and Information Center

COTS Commercial Off-The-Shelf

CSC Coastal Service Center

CSH UNIX "C-shell" (script programming utility)

CT Cylindrical Tube or Conductivity and Temperature (depending on usage).

CTD Conductivity, Temperature, and Depth

CV Coefficient of Variation

CVE Calibration and Validation Element

CVT Calibration and Validation Team

CZCS Coastal Zone Color Scanner

-D-

DAAC Distributed Active Archive Center

DAD Diode Array Detector

DalBOSS Dalhousie Buoyant Optical Surface Sensor

DalSAS Dalhousie SeaWiFS Aircraft Simulator

DARR Data Analysis Round-Robin

DARR-94 The first DARR (1994)

DARR-00 The Second DARR (March 2000)

DAS Data Acquisition Sequence

DATA Not an acronym, but a designator for the Satlantic, Inc., series of power and telemetry units.

DATA-100 (Satlantic) Data (acquisition) Series 100 (unit)

dc Direct Current

DC Direct Current

DCC Dark Current Correction

DCM Deep Chlorophyll Maximum or Depth of the Chlorophyll Maximum (depending on usage).

DCP Data Collection Platform

DHI DHI Water and Environment Institute (Denmark)

DIN Deutsche Industrie-Normen (German industry standards)

DIO Digital Input-Output

DIR Not an acronym, but a designator for the Satlantic, Inc., series of directional units.

DMA Dimethylamine

DMM Digital Multimeter

DMS Dimethylsulfide

DMSP Dimethylsulphoniopropionate

DMSPd Dissolved DMSP

DMSPp DMSP within phytoplankton cells

DNA Deoxyribonucleic Acid

DO Deep Ocean

DOC Dissolved Organic Carbon

DPA Detector Plate Assembly

DSS Digital Sun Sensor

DU Dobson Unit (of total ozone)

DUT Device Under Test

DVM Digital Voltmeter

DYF DYFAMED

DYFAMED Dynamique des Flux en Méditerranée (Dynamics of fluxes in the Mediterranean)

-E-

E East

ECEF Earth-Centered Earth-Fixed

ECI Earth-Centered Inertial

EcoHAB Ecology of Harmful Algal Blooms

ECR Earth-Centered Rotating

EDTA Ethylenediaminetetraacetic Acid

EEZ Exclusive Economic Zone

e-mail Electronic Mail

EOF End-of-File

EOS Earth Observing System

EP Entrance Pupil

EqPac Equatorial Pacific

ERS-2 The Second Earth Resources Satellite

ET Eutrophic

ETOPO2 Earth Topography 2 min grid

ETOPO5 Earth Topography 5 min grid

EU European Union

EUC Equatorial Under Current

$-\mathbf{F}-$

FAFOV Full-Angle Field of View

FARCAL Facility for Advanced Radiometric Calibrations

FASCAL Facility for Automated Spectroradiometric Calibrations

FEL Not an acronym, but a lamp designator.

FET Field-Effect Transistor

FF Free-Fall

FFT Fast Fourier Transform

FIGD-IC Flow Injection Gas-Diffusion Coupled to Ion Chromatography

FL-Cuba Florida-Cuba (cruise)

F-mount Not an acronym, but a mounting system for camera lenses.

FORTRAN Formula Translation (computer language)

FOV Field of View

FRRF Fast Repetition Rate Fluorometer

FS Field Stop

FWHM Full-Width at Half-Maximum

-G-

GAC Global Area Coverage

GF Glass Fiber (Filter)

GF/F Not an acronym, but a specific type of glass fiber filter manufactured by Whatman.

GLOBEC Global Ocean System Eco-Dynamics

GMT Greenwich Mean Time

GoA97 Gulf of Alaska 1997 (cruise)

GoCal Gulf of California

GOES-8 The Eighth Geostationary Operational Environmental Satellite

GOM Gulf of Maine

GPIB General Purpose Interface Bus

GPS Global Positioning System

GS GSFC and Satlantic (comparison)

GSE Ground Support Equipment

GSFC Goddard Space Flight Center

GUI Graphical User Interface

-H-

HACR High-Accuracy Cryogenic Radiometer

HDF Hierarchical Data Format

HDS Horizontal Deployment System

HEPA High Efficiency Particle Arrestor

HMS Her Majesty's Ship

HOBI Hydro-Optics, Biology, and Instrumentation (Laboratories)

HOT Hawaii Optical Time-series

HP Hewlett-Packard

HPL Horn Point Laboratory

HPLC High Performance Liquid Chromatography

HRPT High Resolution Picture Transmission

HS Horizon Scanner

HTCO High Temperature Catalytic Oxidation

- 1 -

IAD Ion-Assisted Beam Deposition

IC Integrated Circuit

ICESS Institute for Computational Earth System Science

ID Identification or Inside Diameter (depending on usage).

IDL International Date Line or Interactive Data Language (depending on usage).

IEEE Institute of Electrical and Electronic Engineers

IES Institute for Environment Sustainability

IF Interference Filter

ILX Not an acronym, but part of the name of ILX Lightwave Corporation of Bozeman, Montana.

IMSL International Mathematical and Statistical Libraries

INSU Institut National des Sciences de l'Univers (the French National Institute of the Science of the Universe)

IOCCG International Ocean Colour Coordinating Group

IOP Inherent Optical Property

IOPs Inherent Optical Properties

IOS (SOC) Institute of Oceanographic Sciences

IQR Interquartile Range IS Internal Standard

ISDGM Istituto per lo Studio della Dinamica delle Grandi Masse (Institute for the Study of Dynames of Large Masses)

ISIC Integrating Sphere Irradiance Collector

-J-

JAS July-August-September

JCR (RRS) James Clark Ross

JES9906 Japan East Sea Cruise, 1999-06

 ${\tt JFM\ January-February-March}$

JG JRC and GSFC (comparison)

JGOFS Joint Global Ocean Flux Study

JRC Joint Research Centre

JS JRC and Satlantic (comparison)

JUL98NAN A NOAA-sponsored cruise off Nantucket Island, Massachusetts in July 1998.

-K-

KMR K from Multiresolution (wavelet analysis)

- L -

L1 Level-1 SeaWiFS data product

L1A Level-1a SeaWiFS data product with navigation information

L2 Level-2 SeaWiFS data product

L3 Level-3 SeaWiFS data product

Lab96 Labrador Sea Cruise, 1996

Lab97 Labrador Sea Cruise, 1997

Lab98 Labrador Sea Cruise, 1998

LAC Local Area Coverage

LANDSAT Land Satellite

LLR Low Level Radiance

LN LoCNESS

LoCNESS Low-Cost NASA Environmental Sampling Sys-

LOV Laboratoire d'Océanographie de Villefranche (Oceanographic Laboratory of Villefranche)

LPCM Laboratoire de Physique et Chimie Marines (Laboratory of Marine Physics and Chemistry)

LS Light Stability

LSB Least Significant Bit

LTER Long Term Ecological Research

LUT Look-Up Table

LXR LANDSAT Transfer Radiometer

-M-

MA Methylamine

MBARI Monterey Bay Aquarium Research Institute

MBR Maximum Band Ratio

MCM Marine and Coastal Management (South Africa)

MCP Modified Cubic Polynomial

MER Marine Environmental Radiometer

MERIS Medium Resolution Imaging Spectrometer

METEOSAT Meteorological Satellite

MF0796 R/V Miller Freeman Cruise, 1996-07

MFR-6 Multi-Filter Rotating Shadow-Band Radiometer

microNESS micro NASA Environmental Sampling System

microSAS micro Surface Acquisition System

miniNESS miniature NASA Environmental Sampling System

MIO Mer Ionienne (Ionian Sea)

MISR Multiangle Imaging Spectroradiometer

MLD Mixed Layer Depth

MLML Moss Landing Marine Laboratory

MMA Mirror Mount Assembly or Monomethylamine (depending on usage).

MN miniNESS

MOBY Marine Optical Buoy

MOCE Marine Optical Characterization Experiment

MODIS Moderate Resolution Imaging Spectroradiometer

MODTRAN Not an acronym, but an atmospheric photochemical and radiative transfer model.

MOS Modular Optoelectronic Scanner (spaceborne sensor) or Marine Optical Spectroradiometer (depending on usage).

MREN Maison de la Recherche en Environnement Naturel

MSB Most Significant Bit

MT Mesotrophic

MVDS Multichannel Visible Detector System

-N-

N North

NABE North Atlantic Bloom Experiment

NAd North Adriatic (Current)

NASA National Aeronautics and Space Administration

NASDA National Space Development Agency (Japan)

NCEP National Center for Environmental Prediction

NCSA National Center for Supercomputing Applica-

NDVI Normalized Difference Vegetation Index

NEC Northeast US Coastal Ecosystem or the present name (not an acronym) for the Nippon Electric Company (Japan), depending on usage.

NECC North Equatorial Counter Current

NEGOM Northeast Gulf of Mexico

NEUC North Equatorial Undercurrent

NIR Near-Infrared

NIST National Institute of Standards and Technology

NOAA National Oceanic and Atmospheric Administration

NR Not Resolved

NRL Naval Research Laboratory

NRSR Normalized Remote Sensing Reflectance

NSD Normalized Standard Deviation

-O-

OC Ocean Color

OC2 Ocean Chlorophyll 2 (algorithm)

OC2v1 OC2 version 1

OC2v2 OC2 version 2

OC2v4 Ocean Chlorophyll 2 (algorithm) version 4

OC4 Ocean Chlorophyll 4 (algorithm)

OC4v2	OC4 version 2		
OC4v3	v3 OC4 version 3		
	OC4 version 4		
OCI	Ocean Color Irradiance (sensor)		
	Ocean Color Irradiance series 200 (sensor)		
	Ocean Color Profiler		
	Ocean Color Radiance (sensor)		
	Ocean Color Radiance series 200 (sensor)		
	Ocean Color Radiance Series 250 (sensor)		
	OCR series-504 (four-channel, digital sensor)		
	OCR series-507 (seven-channel, digital sensor)		
	Ocean Color Radiance Series 1000 (sensor)		
	, , ,		
	Ocean Color Radiance Series 2000 (sensor)		
	Ocean Color Temperature Scanner Outside Diameter		
	Optronic Laboratories, Inc.		
	One-Percent Light Level		
	October-November-December		
	Optical Plankton Counter		
OrbView-2	Not an acronym, but the current name for the		
000000	SeaStar satellite.		
	Orinoco River Plume		
	Orbital Sciences Corporation		
	Oligotrophic		
OV2	OrbView-2		
	-P-		
PAR	Photosynthetically Available Radiation		
* 1 * * *			
PC	Personal Computer or Percent Contribution		
PC	Personal Computer or Percent Contribution		
	Personal Computer or Percent Contribution Ratio (depending on usage).		
PCR	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction		
PCR PD	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference		
PCR PD PI	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator		
PCR PD PI P-I	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance		
PCR PD PI P-I PID	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential		
PCR PD PI P-I PID PlyMBODy	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy		
PCR PD PI P-I PID PlyMBODy PM	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter		
PCR PD PI P-I PID PlyMBODy PM PML	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory		
PCR PD PI P-I PID PlyMBODy PM PML POC	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon		
PCR PD PI P-I PID PlyMBODy PM PML POC	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory		
PCR PD PI P-I PID PlyMBODy PM PML POC POLDER	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer		
PCR PD PI P-I PID PlyMBODy PM PML POC POLDER	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment		
PCR PD PI P-I PID PlyMBODy PM PML POC POLDER	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Sat-		
PCR PD PI PI PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes.		
PCR PD PI PI PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Péla-		
PCR PD PI PI PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Sys-		
PCR PD PI PI PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems)		
PCR PD PI PI P-I PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer		
PCR PD PI PI P-I PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE PRR PRT	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer Platinum Resistance Temperature (sensor)		
PCR PD PI PI P-I PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE PRR PRT PS	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer Platinum Resistance Temperature (sensor) Power Supply		
PCR PD PI PI P-I PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE PRR PRT PS PSD	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer Platinum Resistance Temperature (sensor)		
PCR PD PI PI PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE PRR PRT PS PSD PST	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer Platinum Resistance Temperature (sensor) Power Supply Particle Size Distribution Pacific Standard Time		
PCR PD PI PI P-I PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE PRR PRT PS PSD PST PSU	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer Platinum Resistance Temperature (sensor) Power Supply Particle Size Distribution Pacific Standard Time Practical Salinity Units		
PCR PD PI PI P-I PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE PRR PRT PS PSD PST PSU PTFE	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer Platinum Resistance Temperature (sensor) Power Supply Particle Size Distribution Pacific Standard Time Practical Salinity Units Polytetrafluoroethylene		
PCR PD PI PI P-I PID PlyMBODy PM PML POC POLDER PRIME PRO-DCU PROSOPE PRR PRT PS PSD PST PSU PTFE	Personal Computer or Percent Contribution Ratio (depending on usage). Polymerase Chain Reaction Percent Difference Principal Investigator Photosynthesis-Irradiance Proportional, Integral, Differential Plymouth Marine Bio-Optical Data Buoy Particulate Matter Plymouth Marine Laboratory Particulate Organic Carbon Polarization Detecting Environmental Radiometer Plankton Reactivity in the Marine Environment Not an acronym, but a designator for the Satlantic, Inc., series of 48–76 V deck boxes. Productivité des Systèmes Océaniques Pélagiques (Productivity of Pelagic Oceanic Systems) Profiling Reflectance Radiometer Platinum Resistance Temperature (sensor) Power Supply Particle Size Distribution Pacific Standard Time Practical Salinity Units		

-Q-

QC Quality Control

-R-

RAM Random Access Memory RE Ramsden Eyepiece

RED9503 Red Tide Cruise, 1995-03

Res94 Resolute Cruise, 1994

Res95-2 Resolute Cruise, 1995

Res96 Resolute Cruise, 1996

Res98 Resolute Cruise, 1998

RF Response Factor

RH Relative Humidity

RL Relay Lens

RMA Reduced Major Axis

RMS Root Mean Squared

RMSD Root Mean Square Difference

RMSrd Root Mean Square of relative difference

ROAVERRS Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea

ROLO Robotic Lunar Observatory

ROSSA Radiometric Observations of the Sea Surface and Atmosphere

RPD Relative Percent Difference

RRS Royal Research Ship

RSG (PML) Remote Sensing Group

RSMAS Rosenstiel School for Marine and Atmospheric Science

RSR Relative Spectral Response

RSS Root-Sum Square

RTV Room Temperature Vulcanizing

RVS (BAS) Research Vessel Services

-S-

S South

S/N Serial Number

S/CSC Stennis (Space Center) Coastal Services Center

S/NRL Stennis Space Center, Naval Research Laboratory

SACZ Sub-Antarctic Convergence Zone

SAI Space Applications Institute

SAS Surface Acquisition System

SAS-II Satlantic Airborne Sensor

SAT Short Along-Track (station)

SatView The Satlantic data acquisition and visualization software package.

SBE Sea-Bird Electronics

SBRC Santa Barbara Research Center (Raytheon)

SBRS Santa Barbara Remote Sensing (Hughes)

SBUV Solar Backscatter Ultraviolet Radiometer

SC Shallow Coastal

SCOR Scientific Committee on Oceanographic Research

SDSU San Diego State University

SDY Sequential Day of the Year

SeaACE SeaWiFS Atlantic Characterization Experiment

SeaARCS SeaWiFS Advanced Radiometer Control System

SeaBAM SeaWiFS Bio-optical Algorithm Mini-workshop

SeaBASS SeaWiFS Bio-Optical Archive and Storage Sys-

SeaBOARR SeaWiFS Bio-Optical Algorithm Round-Robin

SeaBOARR-98 The First SeaBOARR (1998)

SeaBOARR-99 The Second SeaBOARR (1999)

SeaBOARR-00 The Third SeaBOARR (April-May 2000)

SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1-23

SeaBOARR-01	The Fourth SeaBOARR (June 2001)	SSST	Sea Surface Skin Temperature
SeaBOARR-02	The Fifth SeaBOARR (June 2002)	SUnSAS	SeaWiFS Underway Surface Acquisition Sys-
	SeaWiFS Buoyant Optical Surface Sensor		tem
	SeaWiFS Data Analysis System	SXR	SeaWiFS Transfer Radiometer
	SeaWiFS Free-Falling Advanced Light Level		
	Sensors		-T-
SeaHARRE	SeaWiFS HPLC Analysis Round-Robin Exper-	T.	
	iment	1	Transmission method for spectrophotometric
SeaHARRE-1	The First SeaWiFS HPLC Analysis Round-	TD (3.7	analysis.
bealinitie i	Robin Experiment		Temporary (identification) Number
Cool aMD	SeaWiFS Lamp Monitoring and Performance		Tropical Atmosphere-Ocean
			Tetrabutyl Ammonium Acetate
	SeaWiFS Optical Profiling System	TEC	Thermoelectric Cooler
SeaPRISM	SeaWiFS Photometer Revision for Incident Sur-	THOR	Three-Headed Optical Recorder
	face Measurement	TIROS	Television Infrared Observation Satellite
	SeaWiFS Surface Acquisition System	TMA	Trimethylamine
	SeaWiFS Shadow Band (radiometer)		Top of the Atmosphere
SeaStar	Not an acronym, but the former name of the		Total Organic Carbon
	satellite on which SeaWiFS was launched, now		Tropical Ocean Global Atmosphere
	known as OrbView-2.		Total Ozone Mapping Spectrometer
SeaSURF	SeaWiFS Square Underwater Reference Frame		Transmission-Reflection (method for spectro-
	Sea-viewing Wide Field-of-view Sensor	1-N	
	South Equatorial Current	ma v	photometric analysis)
	Scanning Electronic Microscopy		Total Suspended Matter
	South Equatorial Undercurrent		Topography Experiment
	•		Tongue of the Ocean (Bahamas)
	Societa Italiana Apparecchi di Precisione		TIROS Operational Vertical Sounder
	Satlantic Instrument Files Standard	TSG	Thermosalinograph
SIMBAD	Satellite Validation for Marine Biology and	TSM	Total Suspended Matter
	Aerosol Determination		Thermo Separation Products
SIMBIOS	Sensor Intercomparison and Merger for Biolog-		Transistor-Transistor Logic
	ical and Interdisciplinary Oceanic Studies		· ·
SIO	Scripps Institution of Oceanography		– U –
SIRCUS	Spectral Irradiance and Radiance Calibrations	77.4	
	with Uniform Standards		University of Arizona
SIRREX	SeaWiFS Intercalibration Round-Robin Exper-		University of California, Santa Barbara
	iment		Underway Instrumentation and Control
SIRREX-1	The First SIRREX (July 1992)		United Kingdom
	The Second SIRREX (June 1993)		Université du Littoral Côte d'Opale
SIRREX-3	The Third SIRREX (September 1994)	UM	University of Miami
	The Fourth SIRREX (May 1995)	UMCES	University of Maryland Center for Environmen-
			tal Science
	The Fifth SIRREX (July 1996)	UNC	Unified Course
	The Sixth SIRREX (August-December 1997)		United Nations Educational, Scientific, and
	The Seventh SIRREX (March 1999)		Cultural Organization
SIRREX-8	The Eighth SIRREX (September–December	HOR	Undulating Oceanographic Recorder
	2001)		Unbiased Percent Difference
	Spherical Integrating Source		Uninterruptable Power Supply
	Southern Mid-Atlantic Bight		Upwelling
SMSR	SeaWiFS Multichannel Surface Reference		
SNR	Signal-to-Noise Ratio		Universal Resource Locator
SO	SeaOPS		University of South Florida
SOC	Southampton Oceanography Centre		United States Geological Survey
	Sampling, Observations and Modelling of At-		United States Navy
	lantic Regional Ecosystems	UTC	Coordinated Universal Time (definition reflects
SOOP	SeaWiFS Ocean Optics Protocols		actual usage instead of following the letters of
	Ship of Opportunity Sea Surface Temperature		the acronym).
DODDIR	Radiometer	UV	Ultraviolet
CDMD	SeaWiFS Profiling Multichannel Radiometer	UVA	Ultraviolet-A
	SeaWiFS Project Office		- V-
	SeaWiFS Quality Monitor	774	•
	The Second Generation SQM		Version 1
	Spectral Response Function		Version 2
	Sea State		Version 3
	Size-of-Source Effect		Version 4
	Sea Surface Height		Version 5
SSM/I	Special Sensor for Microwave/Imaging	VAFB	Vandenberg Air Force Base

E.R. Firestone and S.B. Hooker

VisSCF Visible Spectral Comparator Facility (NIST)

VKI VKI Institute for Water Environment (Denmark)

VXR Visible Transfer Radiometer

-W-

W West

WC Winch and Crane

WETLabs Western Environmental Technology Laboratories (Inc.)

WG Working Group

WiSPER Wire-Stabilized Profiling Environmental Radiometer

WM Spherical Mirror Wedge Section

WMO World Meteorological Organization

WOCE World Ocean Circulation Experiment

WP WiSPER

WS Wind Speed

WSSC Washington Suburban Sanitary Commission

-X-

XBT Expendable Bathythermograph

XOTD Expendable Optical, Temperature, and Depth

-Y, Z-

YB71 Not an acronym, but a type of paint for solar

YBOM Yamato Bank Optical Mooring (Japan)

YES Yankee Environmental Systems (Inc.)

REFERENCES

- A -

- Aas, E., 1981: The refractive index of phytoplancton. *Institute for Geophysikk Report Series, No. 46*, Oslo University, 61 pp.
- Aiken, J., G.F. Moore, and P.M. Holligan, 1992: Remotesensing of oceanic biology in relation to global climate change. J. Phycol., 28, 579-590.
- —, —, C. Trees, S.B. Hooker, and D. Clark, 1995: The SeaWiFS CZCS-Type pigment algorithm. NASA Tech. Memo. 104566, Vol. 29, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 34 pp.
- ——, and S.B. Hooker, 1997: The Atlantic Meridional Transect: Spatially extensive calibration and validation of optical properties and remotely-sensed measurements of ocean color. *Backscatter*, 8, 8-11.
- —, D.G. Cummings, S.W. Gibb, N.W. Rees, R. Woodd-Walker, E.M.S. Woodward, J. Woolfenden, S.B. Hooker, J-F. Berthon, C.D. Dempsey, D.J. Suggett, P. Wood, C. Donlon, N. González-Benítez, I. Huskin, M. Quevedo, R. Barciela-Fernandez, C. de Vargas, and C. McKee, 1998: AMT-5 Cruise Report. NASA Tech. Memo. 1998-206892, Vol. 2, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 113 pp.
- —, N.W. Rees, S. Hooker, P. Holligan, A. Bale, D. Robins, G. Moore, R. Harris, and D. Pilgrim, 2000: The Atlantic Meridional Transect: overview and synthesis of data. *Prog. Oceanogr.*, 45, 257-312.
- Ainsworth, E.J., and F.S. Patt, 2000: "Modifications to the TOMS ozone ancillary data interpolation." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, Sea-WiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000–206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 69–73.
- Ångström, A., 1929: On the atmospheric transmission of sun radiation and on dust in the air. Geogr. Ann., 12, 130-159.
- ——, 1961: Techniques of determining the turbidity of the atmosphere. *Tellus*, **13**, 214–223.
- Antoine, D., and P. Guevel, 2000: Calibration and validation of satellite ocean color observations: The BOUSSOLE Project. Proc. Ocean Optics XV, Monaco, October 16–20, 2000. [Available on CD-ROM: Office of Naval Research, Washington, DC].
- Artegiani, A., D. Bregant, E. Paschini, N. Pinardi, F. Raicich, and A. Russo, 1997a: The Adriatic Sea general circulation, Part I: Air-sea interactions and water mass structure. J. Phys. Oceanogr., 27, 1,492-1,514.
- —, —, —, —, and —, 1997b: The Adriatic Sea general circulation, Part II: Baroclinic circulation structure. J. Phys. Oceanogr., 27, 1,515-1,532.
- ASTM, 1997: "E1256-95, standard test methods for radiation thermometers (single waveband type)." Temperature Measurement, Vol. 14.03, Sect. 14, General Methods and Instrumentation, Annual Book of ASTM Standards, American Society of Testing and Materials, Philadelphia, Pennsylvania, 437-443.

- Austin, R.W., 1974: The remote sensing of spectral radiance from below the ocean surface. In: Optical Aspects of Oceanography, N.G. Jerlov and E.S. Nielsen, Eds., Academic Press, London, 317-344.
- —, 1980: Gulf of Mexico, ocean color surface truth measurements. *Bound.-Layer Meteorol.*, **18**, 269–285.
- —, and G. Halikas, 1976: The index of refraction of seawater. SIO Ref. 76-1, Vis. Lab., Scripps Institution of Oceanography, La Jolla, California, 64 pp.
- —, and T.J. Petzold, 1981: The determination of the diffuse attenuation coefficient of sea water using the Coastal Zone Color Scanner. In: Oceanography from Space, J.F.R. Gower, Ed., Plenum Press, 239–256.

$-\mathbf{B}$

- Bailey, S.W., C.R. McClain, P.J. Werdell, and B.D. Schieber, 2000: "Normalized water-leaving radiance and chlorophyll a match-up analyses." In: McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000–206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 45–52.
- Barlow, R.G., R.F.C. Mantoura, M.A. Gough, and T.W. Fileman, 1993: Pigment signatures of the phytoplankton composition in the northeastern Atlantic during the 1990 spring bloom. Deep-Sea Res. II, 40, 459-477.
- —, D.G. Cummings, and S.W. Gibb, 1997: Improved resolution of mono- and divinyl chlorophylls a and b and zeax-anthin and lutein in phytoplankton extracts using reverse phase C-8 HPLC. Mar. Ecol. Prog. Ser., 161, 303-307.
- Barnes, R.A., 1994: SeaWiFS Data: Actual and Simulated.
 [World Wide Web page.] From URLs: http://seawifs.gsfc.nasa.gov/SEAWIFS/IMAGES/spectra1.dat and/spectra2.dat NASA Goddard Space Flight Center, Greenbelt, Maryland.
- —, 1996a: "Calculation of an equivalent blackbody temperature for the GSFC sphere." In: Barnes, R.A., E-n. Yeh, and R.E. Eplee, SeaWiFS Calibration Topics, Part 1. NASA Tech. Memo. 104566, Vol. 39, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 5-17.
- ——, 1996b: "A comparison of the spectral responses of Sea-WiFS and the SeaWiFS Transfer Radiometer." In: Barnes, R.A., E-n. Yeh, and R.E. Eplee, SeaWiFS Calibration Topics, Part 1. NASA Tech. Memo. 104566, Vol. 39, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 39–48.
- ——, 1996c: "SeaWiFS center wavelengths." In: Barnes, R.A., E-n. Yeh, and R.E. Eplee, SeaWiFS Calibration Topics, Part 1. NASA Tech. Memo. 104566, Vol. 39, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 49–53.
- ——, 1997: "SeaWiFS measurements in orbit: Band-averaged spectral radiance." In: Barnes, R.A., R.E. Eplee, E-n. Yeh, and W.E. Esaias, SeaWiFS Calibration Topics, Part 2. NASA Tech. Memo. 104566, Vol. 40, S.B. Hooker and E.R. Firestone Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 48-55.

- —, and A.W. Holmes, 1993: Overview of the SeaWiFS ocean sensor. *Proc. SPIE*, **1939**, 224-232.
- ——, W.L. Barnes, W.E. Esaias, and C.R. McClain, 1994a: Prelaunch Acceptance Report for the SeaWiFS Radiometer. NASA Tech. Memo. 104566, Vol. 22, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 32 pp.
- —, A.W. Holmes, W.L. Barnes, W.E. Esaias, C.R. McClain, and T. Svitek, 1994b: SeaWiFS Prelaunch Radiometric Calibration and Spectral Characterization. NASA Tech. Memo. 104566, Vol. 23, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 55 pp.
- —, —, and W.E. Esaias, 1995: Stray Light in the Sea-WiFS Radiometer. NASA Tech. Memo. 104566, Vol. 31, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 76 pp.
- ——, and R.E. Eplee, Jr., 1996: "The SeaWiFS solar diffuser." In: Barnes, R.A., E-n. Yeh, and R.E. Eplee, SeaWiFS Calibration Topics, Part 1. NASA Tech. Memo. 104566, Vol. 39, S.B. Hooker and E.R. Firestone Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 54-61.
- —, and E-n. Yeh, 1996: "Effects of source spectral shape in SeaWiFS radiance measurements." In: Barnes, R.A., E-n. Yeh, and R.E. Eplee, SeaWiFS Calibration Topics, Part 1. NASA Tech. Memo. 104566, Vol. 39, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 18-38.
- —, and R.E. Eplee, 1997a: "The 1993 SeaWiFS calibration using band-averaged spectral radiances." In: Barnes, R.A., R.E. Eplee, E-n. Yeh, and W.E. Esaias, SeaWiFS Calibration Topics, Part 2. NASA Tech. Memo. 104566, Vol. 40, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 39–46.
- ——, and ——, 1997b: "The 1993 SeaWiFS calibration using band-averaged spectral radiances." In: Barnes, R.A., R.E. Eplee, E-n. Yeh, and W.E. Esaias, SeaWiFS Calibration Topics, Part 2. NASA Tech. Memo. 104566, Vol. 40, S.B. Hooker and E.R. Firestone Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 39–47.
- —, and W.E. Esaias, 1997: "A nominal top-of-the-atmosphere spectrum for SeaWiFS." In: Barnes, R.A., R.E. Eplee, E-n. Yeh, and W.E. Esaias, SeaWiFS Calibration Topics, Part 2. NASA Tech. Memo. 104566, Vol. 40, S.B. Hooker and E.R. Firestone Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 3-11.
- —, R.E. Eplee, and F.S. Patt, 1998: "SeaWiFS measurements of the moon." In: Sensors, Systems, and Next-Generation Satellites II, SPIE, 3498, 311-324.
- —, and C.R. McClain, 1999: "The calibration of SeaWiFS after two years on orbit." In: Sensors, Systems, and Next-Generation Satellites V, SPIE, 3870, 214-227.
- ——, R.E. Eplee, Jr., F.S. Patt, and C.R. McClain, 1999a: Changes in the radiometric sensitivity of SeaWiFS determined from lunar and solar-based measurements. *Appl. Opt.*, 38, 4,649-4,664.

- —, —, S.F. Biggar, K.J. Thome, E.F. Zalewski, P.M. Slater, and A.W. Holmes, 1999b: The SeaWiFS Solar Radiation-Based Calibration and the Transfer-to-Orbit Experiment. *NASA Tech. Memo.* 1999–206892, Vol. 5, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 28 pp.
- ----, R.E. Eplee, Jr., G.M. Schmidt, F.S. Patt, and C.R. Mc-Clain, 2001: Calibration of SeaWiFS. I. Direct techniques. *Appl. Opt.*, **40**, 6,682–6,700.
- Berk, A., L.S. Bernstein, and D.C. Robertson, 1989: MODTRAN: A moderate resolution model for LOWTRAN7. *Tech. Report GL-TR-90-0122*, Geophysical Directorate Phillips Laboratory, Hanscom AFB, Massachusetts, 44 pp.
- Berthon, J-F., G. Zibordi, S. Grossi, D. van der Linde, and C. Targa, 1998: The CoASTS time-series of bio-optical measurements in the North Adriatic Sea: An analysis in view to interpretation of satellite color data in coastal waters. Ocean Optics XIV, Kailua-Kona, USA, 10-13 November 1998.
- —, G. Zibordi, and S.B. Hooker, 2000: Marine optical measurements of a "mucilage" event in the northern Adriatic Sea, *Limnol. Oceanogr.*, **45**, 322-327.
- —, —, D. D'Alimonte, S. Grossi, D. van der Linde, and C. Targa, 2001: Empirical relationships between apparent and inherent optical properties in the northern Adriatic Sea. Proc. Int. Conf. Current Problems in Optics of Natural Waters (ONW'2001), 25–28 September 2001, St. Petersburg, Russia, Proc. D.S. Rozhdestvensky Opt. Soc., 311–317.
- ——, ——, J.P. Doyle, S. Grossi, D. van der Linde, and C. Targa, 2002: Coastal Atmosphere and Sea Time Series (CoASTS), Part 2: Data Analysis. NASA Tech. Memo. 2002-206892, Vol. 20, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 25 pp.
- Bidigare, R.R., 1991: "Analysis of algal chlorophylls and carotenoids." In: Marine Particles: Analysis and Characterization. Geophysical Monograph 63, D.C. Hurd and D.W. Spencer, Eds., American Geophysical Union, Washington, DC, 119-123.
- Biggar, S.F., 2001: A method for correcting the irradiance of standards of spectral irradiance (lamps) operated at non-standard distances. *Opt. Photonics News*, (withdrawn).
- —, D.I. Gelman, and P.N. Slater, 1990: Improved evaluation of optical depth components from Langley plot data. *Remote Sens. Environ.*, **32**, 91–101.
- —, K.J. Thome, P.N. Slater, A.W. Holmes, and R.A. Barnes, 1993: Preflight solar radiation-based calibration of Sea-WiFS. SPIE, 1939, 233-242.
- —, P.N. Slater, K.J. Thome, A.W. Holmes, and R.A. Barnes, 1994: "Preflight solar-based calibration of SeaWiFS." In: McClain, C.R., R.S. Fraser, J.T. McLean, M. Darzi, J.K. Firestone, F.S. Patt, B.D. Schieber, R.H. Woodward, En. Yeh, S. Mattoo, S.F. Biggar, P.N. Slater, K.J. Thome, A.W. Holmes, R.A. Barnes, and K.J. Voss, Case Studies for SeaWiFS Calibration and Validation, Part 2. NASA Tech. Memo. 104566, Vol. 19, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 25–32.

- —, K.J. Thome, P.N. Slater, A.W. Holmes, and R.A. Barnes, 1995: "Second SeaWiFS preflight solar radiation-based calibration experiment." In: Mueller, J.L., R.S. Fraser, S.F. Biggar, K.J. Thome, P.N. Slater, A.W. Holmes, R.A. Barnes, C.T. Weir, D.A. Siegel, D.W. Menzies, A.F. Michaels, and G. Podesta, Case Studies for SeaWiFS Calibration and Validation, Part 3. NASA Tech. Memo. 104566, Vol. 27, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 20–24.
- Bjornland, T., and S. Liaaen-Jensen, 1989: Distribution patterns of carotenoids in relation to chromophyte phylogeny and systematics. In: The Chromophyte Algae: Problems and Perspectives. J.C. Green, B.S.C. Leadbeater, and W.L. Diver, Eds., Clarendon Press, Oxford, 37-61.
- Bonzagni, M., U. Amato, R. Rizzi, and R. Guzzi, 1989: Evaluation of the shadowband effect on a 2π spectroradiometer. *Appl. Opt.*, **28**, 2,199–2,201.
- Brewer, P.G., and J.P. Riley, 1965: The automatic determination of nitrate in sea water. *Deep-Sea Res.*, 12, 765-772.
- Bricaud, A., M. Babin, A. Morel, and H. Claustre, 1995: Variability in the chlorophyll-specific absorption coefficients of natural phytoplankton: Analysis and parameterization. *J. Geophys. Res.*, 100, 13,321-13,332.
- —, A. Morel, M. Babin, K. Allali, and H. Claustre, 1998: Variations of light absorption by suspended particles with chlorophyll a concentration in oceanic (Case-1) waters: Analysis and implications for bio-optical models. J. Geophys. Res., 103, 31,033-31,044.
- Briegleb, B.P., and V. Ramanathan, 1982: Spectral and diurnal variations in clear sky planetary albedo. J. Climate Appl. Meteor., 21, 1,168-1,171.
- Brown, C.W., 1995: "Classification of coccolithophore blooms in ocean color imagery." In: McClain, C.R., W.E. Esaias, M. Darzi, F.S. Patt, R.H. Evans, J.W. Brown, K.R. Arrigo, C.W. Brown, R.A. Barnes, and L. Kumar, Case Studies for SeaWiFS Calibration and Validation, Part 4. NASA Tech. Memo. 104566, Vol. 28, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 13-19.
- —, and J.A. Yoder, 1994: Coccolithophorid blooms in the global ocean. J. Geophys. Res., 99, 7,467-7,482.
- Bruegge, C.J., V.G. Duval, N.L. Chrien, and D.J. Diner, 1993: Calibration plans for the multi-angle, imaging spectroradiometer (MISR). *Metrologia*, **30**, 231–221.
- Bukata, R.P., J.H. Jerome, and J.E. Bruton, 1988: Particulate concentrations in Lake St. Clair as recorded by a shipborne multispectral optical monitoring system. Remote Sens. Environ., 25, 201-229.
- ——, ——, K.Y. Kondrattyev, and D.V. Pozdnyakov, 1995: Optical Properties and Remote Sensing of Inland and Coastal Waters. CRC Press, Boca Raton, Florida, 362 pp.
- Bustillos-Guzmán, J., H. Claustre, and J.C. Marty, 1995: Specific phytoplankton signatures and their relationship to hydrographic conditions in the coastal northwestern Mediterranean Sea. Mar. Ecol. Prog. Ser., 124, 247–258.
- Butler, J.J., and B.C. Johnson, 1996: EOS radiometric measurement comparisons at Hughes Santa Barbara Remote Sensing and NASA's Jet Propulsion Laboratory. *The Earth Observer*, 8(5), 17–19.

-C-

- Carder, K.L., and R.G. Steward, 1985: A remote sensing reflectance model of a red tide dinoflagellate off West Florida. Limnol. Oceanogr., 30, 286-298.
- —, S.K. Hawes, K.A. Baker, R.C. Smith, R.G. Steward, and B.G. Mitchell, 1991: Reflectance model for quantifying chlorophyll a in the presence of productivity degradation products. J. Geophys. Res., 96, 20,599-20,611.
- ——, F.R. Chen, Z.P. Lee, and S.K. Hawes, 1999: Semi-analytic Moderate-Resolution Imaging Spectrometer algorithms for chlorophyll a and absorption with bio-optical domains based on nitrate-depletion temperatures. J. Geophys. Res., 104, 5,403–5,421.
- Charlson, R.J., J.E. Lovelock, M.O. Andreae, and S.G. Warren, 1987: Oceanic phytoplankton, atmospheric sulphur, cloud albedo, and climate. *Nature*, **326**, 655-661.
- —, S.E. Schwartz, J.M. Hales, R.D. Cess, J.A. Coakley, J.E. Hansen, and D.J. Hofmann, 1992: Climate forcing by anthropogenic aerosols. *Science*, **255**, 423–430.
- Chen, L.C., and G.M. Lerner, 1978: "Sun sensor models." In: Wertz, J.R., Spacecraft Attitude Determination and Control, D. Reidel Publishing Company, Dordrecht, Holland, 224-227.
- Chisholm, S.W., R.J. Olson, E.R. Zettler, R. Goericke, J.B. Waterbury, and N.A. Welschmeyer, 1988: A novel free-living prochlorophyte abundant in the oceanic euphotic zone. *Nature*, **334**, 340–343.
- Clark, D., H.R. Gordon, K.J. Voss, Y. Ge, W. Broenkow, and C. Trees, 1997: Validation of atmospheric correction over the oceans. J. Geophys. Res., 102, 17,209-17,217.
- —, M.E. Feinholz, M.A. Yarbrough, B.C. Johnson, S.W. Brown, Y.S. Kim, and R.A. Barnes, 2001: "Overview of the radiometric calibration of MOBY." In: Earth Observing Systems VI, SPIE, 4483, 64-76.
- Claustre, H., 1994: Phytoplankton pigment signatures of the trophic status in various oceanic regimes. *Limnol. Oceanogr.*, **39**, 1,207-1,211.
- —, P. Kerhervé, J-C. Marty, L. Prieur, and J.H. Hecq, 1994: Phytoplankton distribution associated with a geostrophic front: ecological and biogeochemical implications. *J. Mar. Res.*, **52**, 711–742.
- Cox, C., and W. Munk, 1954: Measurements of the roughness of the sea surface from photographs of the sun's glitter. J. Opt. Soc. Am., 44, 838–850.
- Curcio, J.A., and C.C. Petty, 1951: The near infrared absorption spectrum of liquid water. J. Opt. Soc. Amer., 41, 302-305.

- D -

D'Alimonte, D., G. Zibordi, and J-F. Berthon, 2001: "The JRC data processing system." In: Hooker, S.B., G. Zibordi J-F. Berthon, D. D'Alimonte, S. Maritorena, S. McLean, and J. Sildam, Results of the Second SeaWiFS Data Analysis Round Robin, March 2000 (DARR-00). NASA Tech. Memo. 2001-206892, Vol. 15, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 71 pp.

- Darzi, M., 1998: SeaWiFS Algorithm Flow Chart. NASA Contractor Report 1998–206848, NASA Goddard Space Flight Center, Greenbelt, Maryland, 36 pp.
- ——, F.S. Patt, and L. Kumar, 1995: "Algorithm for the application of the sensor calibration for SeaWiFS level-2 processing." In: McClain, C.R., K. Arrigo, W.E. Esaias, M. Darzi, F.S. Patt, R.H. Evans, J.W. Brown, C.W. Brown, R.A. Barnes, and L. Kumar, SeaWiFS Algorithms, Part 1. NASA Tech. Memo. 104566, Vol. 28, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 26–32.
- Dave, J.V., 1972: Development of programs for computing characteristics of ultraviolet radiation, *Tech. Rept.*, Vector Case, IBM Corp., Fed. Syst. Div., Gaithersburg, Maryland, 337 pp.
- Davies, B.H., 1976: Carotenoids. In: Chemistry and Biochemistry of Plant Pigments, Volume 2, 2nd Edition. T.W. Goodwin, Ed., Academic Press, London, 38-165.
- Dedieu, G., P-Y. Deschamps, and Y.H. Kerr, 1987: Satellite estimation of solar irradiance at the surface of the earth and of surface albedo using a physical model applied to Meteosat data. J. Climate Appl. Meteor., 26, 79-87.
- De Santis, L.V., C. Tomasi, and V. Vital, 1994: Characterization of Ångström's turbidity parameters in the Po Valley area for summer conditions of the atmosphere. *Il Nuovo Cimento*, 17C, 407-430.
- Deschamps, P.Y., M. Herman, and D. Tanré, 1983: Modeling of the atmospheric effects and its application to the remote sensing of ocean color. *Appl. Opt.*, 22, 3,751-3,758.
- DeWitt, D.P., and J.C. Richmond, 1988: "Thermal radiative properties of materials." In: Theory and Practice of Radiation Thermometry, D.P. DeWitt and G.D. Nutter, Eds., John Wiley and Sons, Inc., New York, 91-187.
- Diehl, H.P., and H. Haardt, 1980: Measurement of the spectral attenuation to support biological research in a "plankton tube" experiment. Oceanol. Acta, 3, 89-96.
- Ding, K., and H.R. Gordon, 1994: Atmospheric correction of ocean-color sensors: effects of the Earth's curvature., *Appl. Opt.*, **33**, 7,096–7,106.
- Doyle, J.P., and G. Zibordi, 1998: Correction of oceanographic tower-shading effects on in-water optical measurements. *Proc. Ocean Optics XIV*, [Available on CD-ROM], Office of Naval Research, Washington, DC.
- —, and —, 2002: Monte Carlo modeling of optical transmission within 3-D shadowed field: Application to large deployment structures, 41, 4,283-4,306.

$-\mathbf{E}$

- Early, E.A., and B.C. Johnson, 1997: "Calibration and characterization of the GSFC sphere." In: Yeh, E-n., R.A. Barnes, M. Darzi, L. Kumar, E.A. Early, B.C. Johnson, and J.L. Mueller, Case Studies for SeaWiFS Calibration and Validation, Part 4. NASA Tech. Memo. 104566, Vol. 41, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 3-17.
- —, E.A. Thompson, and P. Disterhoft, 1998a: A field calibration unit for ultraviolet spectroradiometers. *Appl. Opt.*, **37**, 6,664-6,670.

- ——, A. Thompson, B.C. Johnson, J. DeLuisi, P. Disterhoft, D. Wardle, E. Wu, W. Mou, J. Ehramjian, J. Tusson, T. Mestechkina, M. Beaubian, J. Gibson, and D. Hayes, 1998b: The 1996 North American interagency intercomparison of ultraviolet monitoring spectroradiometers. J. Res. NIST, 103, 449–482.
- cas, T. Mestechkina, L. Harrison, J. Berndt, and D. Hayes, 1998c: The 1995 North American interagency intercomparison of ultraviolet monitoring spectroradiometers. J. Res. NIST, 103, 15-62.
- ---, P.Y. Barnes, B.C. Johnson, J.J. Butler, C.J. Bruegge, S.F. Biggar, P.R. Spyak, and M.M. Pavlov, 2000: Bidirectional reflectance round-robin in support of the Earth Observing System Program. J. Atmos. Ocean. Technol., 17, 1,077-1,091.
- Emery, W.J., and J.S. Dewar, 1982: Mean temperature and salinity-depth and temperature-depth curves for the North Atlantic and the North Pacific. *Prog. Oceanogr.*, 11, 219–305.
- Eplee, R.E., Jr., and R.A. Barnes, 1997: "The SeaWiFS temperature calibration." In: Barnes, R.A., R.E. Eplee, E-n. Yeh, and W.E. Esaias, SeaWiFS Calibration Topics, Part 2. NASA Tech. Memo. 104566, Vol. 40, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 56-62.
- —, and —, 2000: "Lunar data analysis for SeaWiFS calibration." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000–206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 17–27.
- —, and C.R. McClain, 2000a: "MOBY data analysis for vicarious calibration of SeaWiFS bands 1-6." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000-206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 43-50.
- ----, and ----, 2000b: "SeaWiFS global clear-water analysis." In: McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000-206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 29-33.
- —, and F.S. Patt, 2000: "Cloud-top radiance analysis for SeaWiFS bilinear gain knee calibration." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, Sea-WiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000–206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 13–16.

- SeaWiFS calibration." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000-206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 28-37.
- , W.D. Robinson, S.W. Bailey, D.K. Clark, P.J. Werdell, M. Wang, R.A. Barnes, and C.R. McClain, 2001: Calibration of SeaWiFS. II. Vicarious techniques. Appl. Opt., 40, 6,701-6,718.
- Eppeldauer, G., 1991: Temperature monitored/controlled silicon photodiodes for standardization. SPIE, 1479, 71-77.
- -, and J.E. Hardis, 1991: Fourteen decade photocurrent measurements with large area silicon photodiodes at room temperature. Appl. Opt., 30, 3,091-3,099.
- Evans, R.H., and H.R. Gordon, 1994: Coastal zone color scanner "system calibration": A retrospective examination. J. Geophys. Res., 99, 7,293-7,307.

-**F**-

- Fallon, L., 1978: "Recursive least-squares estimators and Kalman filters." In: Wertz, J.R., Spacecraft Attitude Determination and Control, D. Reidel Publishing Company, Dordrecht, Holland, 459-469.
- -, and P.V. Rigterink, 1978: "Introduction to estimation theory." In: Wertz, J.R., Spacecraft Attitude Determination and Control, D. Reidel Publishing Company, Dordrecht, Holland, 447-451.
- Fargion, G.S., and J.L. Mueller, 2000: Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 2, NASA Tech. Memo. 2000-209966, NASA Goddard Space Flight Center, Greenbelt, Maryland, 184 pp.
- -, and C.R. McClain, 2001: SIMBIOS Project 2000 Annual Report, NASA Tech. Memo. 2001-209976 NASA Goddard Space Flight Center, Greenbelt, Maryland, 164 pp.
- Ferrari, G.M., M.D. Dowell, S. Grossi, and C. Targa, 1996: Relationship between the optical properties of chromophoric dissolved organic matter and total concentration of dissolved organic carbon in the southern Baltic Sea region. Mar. Chem., 55, 299-316.
- , and —, 1999: A method for removal of light-absorption by phytoplankton pigments using chemical oxidation, J. Phycol., 35, 1,090-1,098.
- Firestone, E.R., and S.B. Hooker, 1998: SeaWiFS Prelaunch Technical Report Series Final Cumulative Index. NASA Tech. Memo. 1998-104566, Vol. 43, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 4-8.

- -, R.A. Barnes, and F.S. Patt, 2000: "Solar data analysis for Firestone, J.K., R.H. Woodward, and C.R. McClain, 1994: "An evaluation of surface wind products for use in SeaWiFS." In: McClain, C.R., R.S. Fraser, J.T. McLean, M. Darzi, J.K. Firestone, F.S. Patt, B.D. Schieber, R.H. Woodward, E-n. Yeh, S. Mattoo, S.F. Biggar, P.N. Slater, K.J. Thome, A.W. Holmes, R.A. Barnes, and K.J. Voss, Case Studies for SeaWiFS Calibration and Validation, Part 2. NASA Tech. Memo. 104566, Vol. 19, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 50-64.
 - Flittner, D.E., and P.N. Slater, 1991: Stability of narrow-band filter radiometers in the solar-reflected range. Photogramm. Eng. Remote Sens., 57, 165-171.
 - Fougnie, B., R. Frouin, P. Lecompte, P-Y. Deschamps, 1999a: Reduction of skylight reflection effects in the above-water measurements of diffuse marine reflectance. Appl. Opt., 38, 3,844-3,856.
 - P-Y. Deschamps, R. Frouin, 1999b: Vicarious calibration of the POLDER ocean color spectral bands using in situ measurements. IEEE Trans. Geosci. Remote Sens., 37, 1,567-1,574.
 - Fowler, J.B., 1977: The electronic aspects of the NBS detector response and intercomparison package and laser stabilization facility. Electro-Optics/Laser 77 Conference and Exposition, Industrial and Scientific Conference Management, Chicago, Illinois, 689-695.
 - Fraser, R.S., S. Mattoo, E-n. Yeh, and C.R. McClain, 1997: Algorithm for atmospheric and glint corrections of satellite measurements of ocean pigment. J. Geophys. Res., 102, 17,107-17,118.
 - Fröhlich, C., and G.E. Shaw, 1980: New determination of Rayleigh scattering in the terrestrial atmosphere. Appl. Opt., **19,** 1,773–1,775.
 - Frouin, R., D.W. Lingner, K. Baker, C. Gautier, and R. Smith, 1989: A simple analytical formula to compute clear sky total and photosynthetically available solar irradiance at the ocean surface. J. Geophys. Res., 94, 9,731-9,742.
 - -, and B. Chertock, 1992: A technique for global monitoring of net solar irradiance at the ocean surface. Part I: Model. J. Appl. Meteor., 31, 1,056-1,066.
 - , M. Schwindling, and P.Y. Deschamps, 1996: Spectral reflectance of sea foam in the visible and near infrared: In situ measurements and remote sensing implications. J. Geophys. Res., 101, 14,361–14,371.
 - Fu, G., K.S. Baith, and C.R. McClain, 1998: SeaDAS: The SeaWiFS Data Analysis System. Proc. 4th Pacific Ocean Remote Sensing Conf., Qingdao, China, 28-31 July 1998, 73 - 79.
 - Fukushima, H., M. Schmidt, B.J. Sohn, M. Toratani, and I. Uno, 1999: Detection of dust loaded airmass in SeaWiFS Imagery: an empirical dust index in comparison with model-predicted dust distribution over the Pacific in April 1998, Proc. Int. Symp. Remote Sens. '99, Korean Society of Remote Sensing, ISSN 1226-9743, 89-94.
 - Furnas, M.J., 1990: In situ growth rates of marine phytoplankton: approaches to measurement, community and species growth rates. J. Plank. Res., 12, 1,117-1,151.

-G-

- Garside, C., 1982: Chemiluminescent technique for the determination of nanomolar concentrations of nitrate and nitrite in seawater. *Mar. Chem.*, 11, 159-167.
- Gentile, T.R., and J.M. Houston, J.E. Hardis, C.L. Cromer, and A.C. Parr, 1996: National Institute of Standards and Technology High-accuracy Cryogenic Radiometer. *Appl. Opt.*, **35**, 1,056-1,068.
- Gibb, S.W., J.W. Wood, and R.F.C. Mantoura, 1995: Automation of flow injection gas diffusion-ion chromatography for the nanomolar determination of methylamines and ammonia in seawater and atmospheric samples. J. Autom. Chem., 17, 205-212.
- ----, R.F.C. Mantoura, P.S. Liss, and R.G. Barlow, 1998: Distribution and biogeochemistry of methylamines and ammonia in the Arabian Sea. *Deep-Sea Res.*, 46, 593-615.
- Gilmartin, M., and N. Revelante, 1980: Nutrient input and the summer nanoplankton bloom in the northern Adriatic Sea. *Mar. Ecol.*, 1, 169–180.
- ----, D. Degobbis, N. Relevante, and N. Smodlaka, 1990: The mechanism controlling plant nutrient concentrations in the Northern Adriatic Sea. *Int. Revue Ges. Hydrobiol.*, **75**, 425-445.
- Gordon, H.R., 1981: A preliminary assessment of the Nimbus-7 CZCS atmospheric correction algorithm in a horizontally inhomogeneous atmosphere. In: Oceanography from Space, J.F.R. Gower, Ed., Plenum Press, 257-266.
- ——, 1995: Remote sensing of ocean color: A methodology for dealing with broad spectral bands and significant out-ofband response. Appl. Opt., 34, 8,363-8,374.
- —, 1998: In-orbit calibration strategy for ocean color sensors. Remote Sens. Environ., 63, 265-278.
- ——, and W.R. McCluney, 1975: Estimation of the depth of sunlight penetration in the sea for remote sensing. Appl. Opt., 14, 413-416.
- —, and D.K. Clark, 1981: Clear water radiances for atmospheric correction of coastal zone color scanner imagery. *Appl. Opt.*, **20**, 4,175–4,180.
- —, —, J.W. Brown, O.B. Brown, R.H. Evans, and W.W. Broenkow, 1983: Phytoplankton pigment concentrations in the Middle Atlantic bight: comparison between ship determinations and Coastal Zone Color Scanner estimates. Appl. Opt., 22, 20-26.
- —, J.W. Brown, and R.H. Evans, 1988a: Exact Rayleigh scattering calculations for use with the Nimbus-7 Coastal Zone Color Scanner. Appl. Opt., 27, 862-871.
- ----, O.B. Brown, R.H. Evans, J.W. Brown, R.C. Smith, K.S. Baker, and D.K. Clark, 1988b: A semianalytic radiance model of ocean color, J. Geophys. Res., 93, 10,909-10,924.
- ----, and K. Ding, 1992: Self shading of in-water optical instruments. *Limnol. Oceanogr.*, **37**, 491-500.
- ---, and M. Wang, 1992: Surface roughness considerations for atmospheric correction of ocean color sensors. 1: Rayleigh scattering component. *Appl. Opt.*, **31**, 4,247–4,260.

- ----, and ----, 1994a: Retrieval of water-leaving radiance and aerosol optical thickness over the oceans with SeaWiFS: a preliminary algorithm. Appl. Opt., 33, 443-452.
- ——, and ——, 1994b: Influence of oceanic whitecaps on atmospheric correction of ocean color sensors. *Appl. Opt.*, **33**, 7,354–7,763.
- Gould, R.W., and R.A. Arnone, 1994: Extending Coastal Zone Color Scanner estimates of the diffuse attenuation coefficient into case II waters. SPIE, Ocean Optics XII, 2258, 342-356.
- ——, and M. Sydor, 1998: Testing a new remote sensing reflectance algorithm to estimate absorption and scattering in Case-2 Waters. [Available on CD-ROM], SPIE Ocean Optics XII, Hawaii.
- —, —, and P.M. Martinolich, 1999: Spectral dependence of the scattering coefficient in Case-1 and Case-2 waters. *Appl. Opt.*, **38**, 2,377-2,383.
- Graeme, J.G., 1995: Photodiode Amplifiers: Operational Amplifier Solutions, McGraw-Hill, New York, 252 pp.
- Grasshoff, K., 1976: Methods of Seawater Analysis. Verlag Chemie, Weilheim, Germany, 317 pp.
- Green, S.A., and N. Blough, 1994: Optical absorption and fluorescence properties of chromophoric dissolved organic matter in natural waters. *Limnol. Oceanogr.*, **39**, 1,903–1,916.
- Gregg, W.W., F.S. Patt, and R.H. Woodward, 1993: The Simulated SeaWiFS Data Set, Version 1. NASA Tech. Memo. 104566, Vol. 9, S.B. Hooker, E.R. Firestone, and A.W. Indest, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 17 pp.
- ——, ——, A.L. Mezaache, J.D. Chen, J.A. Whiting, 1994: The Simulated SeaWiFS Data Set, Version 2. NASA Tech. Memo. 104566, Vol. 15, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 42 pp., plus color plates.
- —, and R.H. Woodward, 1998: Improvements in high frequency ocean color observations: Combining data from SeaWiFS and MODIS, *IEEE Trans. Geosci. Remote Sens.*, 36, 1,350–1,353.
- Greenberg, A.E., L.S. Clesceri, and A.D. Eaton (Eds.), 1992: Standard Methods for the Examination of Water and Wastewater, 18th Edition. American Public Health Association, Washington, DC, 10-19.
- Guzzi, R., G. Maracci, R. Rizzi, and R. Siccardi, 1985: Spectroradiometer for ground-based atmospheric measurements related to remote sensing in the visible from a satellite. Appl. Opt., 24, 2,859-2,864.

– H –

- Hale, G.M., and M.R. Query, 1973: Optical constants of water in the 200-nm to 200 μm wavelength region. Appl. Opt., 12, 555-563.
- Hapke, B., 1986: Bidirectional reflectance spectroscopy. 4. Extinction and the opposition effect. *Icarus*, 67, 246–280.
- Harrison, L., J. Michalsky, and J. Berndt, 1994: Automatic multifilter rotating shadow-band radiometer: An instrument for optical depth and radiation measurements. Appl. Opt., 33, 5,118-5,125.

- Heath, D.F., Z. Wei, W.K. Fowler, and V.W. Nelson, 1993: Comparison of spectral radiance calibrations of SBUV-2 satellite ozone monitoring instruments using integrating sphere and flat-plate diffuser techniques. *Metrologia*, 30, 259-264.
- Helfenstein, P., and J. Veverka, 1987: Photometric properties of lunar terrains derived from Hapke's equation. *Icarus*, 72, 342-357.
- Herman, J.R., P.K. Bhartia, O. Torres, N.C. Hsu, C.J. Seftor, and E. Celarier, 1997: Global distribution of UV-absorbing aerosols from Nimbus-7/TOMS data, J. Geophys. Res., 102, 16,911–16,922.
- Holben, B.N., T.F. Eck, I. Slutsker, D. Tanré, J.P. Buis, A. Setzer, E. Vermote, J.A. Reagan, Y.I. Kaufman, T. Nakajima, F. Lavenu, I. Jankowiak, and A. Smirnov, 1998: AERONET—A federated instrument network and data archive for aerosol characterization. Remote Sens. Environ., 66, 1-16.
- Holm-Hansen, O., C.J. Lorenzen, R.W. Holmes, and J.D.H. Strickland, 1965: Fluorometric determination of chlorophyll. J. du Cons. Int'l. pour l'Explor. de la Mer, 30, 3-15.
- Hooker, S.B., W.E. Esaias, G.C. Feldman, W.W. Gregg, and C.R. McClain, 1992: An Overview of SeaWiFS and Ocean Color. NASA Tech. Memo. 104566, Vol. 1, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 24 pp., plus color plates.
- —, and —, 1993: An overview of the SeaWiFS project. Eos, Trans., Amer. Geophys. Union, 74, 241-246.
- —, C.R. McClain, and A. Holmes, 1993a: Ocean color imaging: CZCS to SeaWiFS. Marine Tech. Soc. J., 27, 3-15.
- —, W.E. Esaias, and L.A. Rexrode, 1993b: Proceedings of the First SeaWiFS Science Team Meeting. NASA Tech. Memo. 104566, Vol. 8, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 61 pp.
- —, —, J.K. Firestone, T.L. Westphal, E. Yeh, and Y. Ge, 1994a: The SeaWiFS Bio-Optical Archive and Storage System (SeaBASS), Part 1. NASA Tech. Memo. 104566, Vol. 20, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 40 pp.
- —, T.L. Westphal, Y. Ge, 1994b: "The SIRREX database." In: Hooker, S.B., C.R. McClain, J.K. Firestone, T.L. Westphal, E. Yeh, and Y. Ge, The SeaWiFS Bio-Optical Archive and Storage System (SeaBASS), Part 1. NASA Tech. Memo. 104566, Vol. 20, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 23-30.
- —, C.R. McClain, J.K. Firestone, T.L. Westphal, E-n. Yeh, and Y. Ge, 1994c: The SeaWiFS Bio-Optical Archive and Storage System (SeaBASS), Part 1. NASA Tech. Memo. 104566, Vol. 20, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 40 pp.
- —, and J. Aiken, 1998: Calibration evaluation and radiometric testing of field radiometers with the SeaWiFS Quality Monitor (SQM). J. Atmos. Ocean. Technol., 995-1,007.

- —, G. Zibordi, G. Lazin, and S. McLean, 1999: The Sea-BOARR-98 Field Campaign. NASA Tech. Memo. 1999-206892, Vol. 3, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 40 pp.
- ——, and G. Lazin, 2000: The SeaBOARR-99 Field Campaign. NASA Tech. Memo. 2000-206892, Vol. 8, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 46 pp.
- ----, and S. Maritorena, 2000: An evaluation of oceanographic radiometers and deployment methodologies. J. Atmos. Ocean. Technol., 17, 811-830.
- ---, and C.R. McClain, 2000: The calibration and validation of SeaWiFS data. *Prog. Oceanogr.*, 45, 427-465.
- —, G. Zibordi, J-F. Berthon, S.W. Bailey, and C.M. Pietras, 2000a: The SeaWiFS Photometer Revision for Incident Surface Measurement (SeaPRISM) Field Commissioning. NASA Tech. Memo. 2000-206892, Vol. 13, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 24 pp.
- —, H. Claustre, J. Ras, L. Van Heukelem, J-F. Berthon, C. Targa, D. van der Linde, R. Barlow, and H. Sessions, 2000b: The First SeaWiFS HPLC Analysis Round-Robin Experiment (SeaHARRE-1). NASA Tech. Memo. 2000-206892, Vol. 14, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 42 pp.
- —, G. Zibordi, J-F. Berthon, D. D'Alimonte, S. Maritorena, S. McLean, and J. Sildam, 2001: Results of the Second Sea-WiFS Data Analysis Round Robin, March 2000 (DARR-00). NASA Tech. Memo. 2001–206892, Vol. 15, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 71 pp.
- —, S. McLean, J. Sherman, M. Small, G. Lazin, G. Zibordi, and J.W. Brown, 2002a: The Seventh SeaWiFS Intercalibration Round-Robin Experiment (SIRREX-7), March 1999. NASA Tech. Memo. 2002-206892, Vol. 17, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 69 pp.
- ——, G. Lazin, G. Zibordi, and S. McLean, 2002b: An evaluation of above- and in-water methods for determining water-leaving radiances. J. Atmos. Ocean. Technol., 19, 486-515.
- —, and A. Morel, 2003: Platform and environmental effects on above- and in-water determinations of water-leaving radiances. J. Atmos. Ocean. Technol., 20, 187-205.
- Hsu, N.C., J.R. Herman, P.K. Bhartia, C.J. Seftor, O. Torres, A.M. Thompson, J.F. Gleason, T.F. Eck, and B.N. Holben, 1996: Detection of biomass burning smoke from TOMS measurements, Geophys. Res. Lett., 23, 745-748.
- ——, O. Torres, B.N. Holben, D. Tanre, T.F. Eck, A. Smirnov, B. Chatenet, and F. Lavenu, 1999: Comparisons of the TOMS aerosol index with sun photometer aerosol optical thickness: results and applications, J. Geophys. Res., 104, 6,269-6,279.

- W.D. Robinson, S.W. Bailey, and P.J. Werdell, 2000: "The description of the SeaWiFS absorbing aerosol index."
 In: McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000-206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 3-5.
- Hu, C., K.L. Carder, and F.E. Müeller-Karger, 2000a: How precise are SeaWiFS ocean color estimates? Implications of digital noise errors. Remote Sens. Environ., 76, 239– 249.
- —, —, and —, 2000b: Atmospheric correction of Sea-WiFS imagery over turbid coastal waters; a practical method. Remote Sens. Environ., 74, 195-206.

-I-

- International Organization for Standardization, 1993: Guide to the Expression of Uncertainty in Measurement, International Organization for Standardization, Geneva, Switzerland, 101 pp.
- IOCCG, 1998: Minimum Requirements for an Operational Ocean Colour Sensor for the open ocean. Reports Int. Ocean-Colour Coordinating Group, Report Number 1, 46 pp.
- Iqbal, M., 1983: An Introduction to Solar Radiation. Academic Press, New York, 390 pp.

– J –

- Jeffrey, S.W., 1972: Preparation and some properties of crystalline chlorophyll c_1 and chlorophyll c_2 from marine algae. Biochim. Biophys. Acta., 279, 15-33.
- ——, and F.T. Haxo, 1968: Photosynthetic pigments of symbiotic dinoflagellates (zooxanthallae) from corals and clams. *Biol. Bull.*, **135**, 149–165.
- ——, and J-M. LeRoi, 1997: Simple procedures for growing SCOR reference microalgal cultures. In: *Phytoplankton Pigments in Oceanography: Guidelines to Modern Methods*. S.W. Jeffrey, R.F.C. Mantoura, and S.W. Wright, Eds., UNESCO Publishing, Paris, 181–205.
- ----, and R.F.C. Mantoura, 1997: Appendix A: Pigment abbreviations used by SCOR WG 78. In: Phytoplankton Pigments in Oceanography: Guidelines to Modern Methods. S.W. Jeffrey, R.F.C. Mantoura, and S.W. Wright, Eds., UNESCO Publishing, Paris, 447-559.
- ——, ——, and S.W. Wright, Eds., 1997a: "Phytoplankton Pigments in Oceanography: Guidelines to Modern Methods." UNESCO Monograph in Oceanographic Methods. Report for SCOR WH 78, SCOR UNESCO Monographs on Oceanographic Methodology. Paris, France, 661 pp.
- —, and —, 1997b: Phytoplankton Pigments in Oceanography: Guidelines to Modern Methods. UNESCO Publishing, Paris, 661 pp.

- Johnson, B.C., S.S. Bruce, E.A. Early, J.M. Houston, T.R. O'Brian, A. Thompson, S.B. Hooker, and J.L. Mueller, 1996: The Fourth SeaWiFS Intercalibration Round-Robin Experiment, SIRREX-4, May 1995. NASA Tech. Memo. 104566, Vol. 37, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 66 pp.
- —, F. Sakuma, J.J. Butler, S.F. Biggar, J.W. Cooper, J. Ishida, and K. Suzuki, 1997: Radiometric measurement comparison using the Ocean Color and Temperature Scanner (OCTS) visible and near infrared integrating sphere. J. Res. NIST, 102, 627-646.
- ——, P.-S. Shaw, S.B. Hooker, and D. Lynch, 1998a: Radiometric and engineering performance of the SeaWiFS Quality Monitor (SQM): A portable light source for field radiometers. J. Atmos. Ocean. Technol., 15, 1,008-1,022.
- —, J.B. Fowler, and C.L. Cromer, 1998b: The SeaWiFS Transfer Radiometer (SXR). NASA Tech. Memo. 1998-206892, Vol. 1, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 58 pp.
- ——, E.A. Early, R.E. Eplee, Jr., R.A. Barnes, and R.T. Caffrey, 1999a: The 1997 Prelaunch Calibration of SeaWiFS. NASA Tech. Memo. 1999–206892, Vol. 4, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 51 pp.
- ——, H.W. Yoon, S.S. Bruce, P-S. Shaw, A. Thompson, S.B. Hooker, R.E. Eplee, Jr., R.A. Barnes, S. Maritorena, and J.L. Mueller, 1999b: The Fifth SeaWiFS Intercalibration Round-Robin Experiment (SIRREX-5), July 1996. NASA Tech. Memo. 1999-206892, Vol. 7, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 75 pp.
- Joint Global Ocean Flux Study, 1991: JGOFS Core Measurements Protocols. JGOFS Report No. 6, Scientific Committee on Oceanic Research, 40 pp.
- —, 1994: Protocols for the Joint Global Ocean Flux Study Core Measurements. Intergovernmental Oceanographic Commission, Scientific Committee on Oceanic Research. Manual and Guides, UNESCO, 29, 91-96.
- Jonasz, M., 1983: Particle-size distributions in the Baltic. *Tellus*, **35B**, 346–358.
- Jones, R.D., 1991: An improved fluorescence method for the determination of nanomolar concentrations of ammonium in natural waters. *Limnol. Oceanogr.*, 36, 814-819.
- Junge, C.E., 1963: Air chemistry and radioactivity. Academic Press, New York, 382 pp.

-K-

- Kahru, M., and B.G. Mitchell, 1998a: Spectral reflectance and absorption of a massive red tide off Southern California. J. Geophys. Res., 103, 21,601-21,609.
- ——, and ——, 1998b: Evaluation of instrument self-shading and environmental errors on ocean color algorithms. Proc. Ocean Optics XIV, Kona, Hawaii, S. Ackleson and J. Campbell, Eds., [Available on CD-ROM.]

- —, and —, 1999: Empirical chlorophyll algorithm and preliminary SeaWiFS validation for the California Current. Int. J. Remote Sens., 20, 3,423-3,429.
- Kasten, F., 1966: A new table and approximate formula for relative optical air mass. Arch. Meteorol. Geophys. Bioklimatol. Ser. B, 14, 206-223.
- —, and A.T. Young, 1989: Revised optical air mass tables: An approximation formula. Appl. Opt., 28, 4,735-4,738.
- Kearns, E., R. Riley, and C. Woody, 1996: A bio-optical time series collected in coastal waters for SeaWiFS calibration and validation: Large structure shadowing considerations. Halifax, Canada, Proc. SPIE, Ocean Optics XIII, 2963, 697-702.
- Keller, M.D., W.K. Bellows, and R.R.L. Guillard, 1989: Dimethylsulphide production in marine phytoplankton. In: Biogenic Sulphur in the Environment. E.S. Saltzman and W.J. Cooper, Eds., American Chemical Society, Washington, DC, 167-182.
- Kieffer, H.H., and J.M. Anderson, 1998: "Use of the moon for spacecraft calibration over 350-2500 nm." In: Sensors, Systems, and Next-Generation Satellites II, SPIE, 3498, 325-336.
- ——, T.C. Stone, R.A. Barnes, S. Bender, R.E. Eplee, Jr., J. Mendenhall, and L. Ong, 2002: "On-orbit radiometric calibration over time and between spacecraft using the Moon." In: Sensors, Systems, and Next Generation Satellites VIII, SPIE, 4881, 301–313.
- King, G.M., 1988: Distribution and metabolism of quaternary amines in marine sediments. In: Nitrogen Cycling in Coastal Marine Environments. T.H. Blackburn and J. Sorenson, Eds., John Wiley and Sons, Chichester, United Kingdom, 143-173.
- Kiorbe, T., 1993: Turbulence, phytoplankton cell size, and the structure of pelagic food webs. Adv. Mar. Biol., 29, 1-72.
- Kirk, J.T.O., 1994: Estimation of the absorption and the scattering coefficients of natural waters by use of underwater irradiance measurements, *Appl. Opt.*, **33**, 3,276–3,278.
- Kirkwood, D.S., 1989: Simultaneous determination of selected nutrients in seawater. *ICES CM1989*, **29**, 12 pp.
- Kishino, M., J. Ishizaka, S. Saitoh, Y. Senga, and M. Utashima, 1997: Verification plan of ocean color and temperature scanner atmospheric correction and phytoplankton pigment by moored optical buoy system, J. Geophys. Res., 102, 17,197-17,207.
- Koepke, P., 1984: Effective reflectance of oceanic whitecaps. *Appl. Opt.*, **23**, 1,816–1,824.
- Kostkowski, H.J., and F.E. Nicodemus, 1978: "An introduction to the measurement equation." In: F.E. Nicodemus, Ed., Self-Study Manual on Optical Radiation Measurements, Part 1-Concepts, NBS Tech. Note 910-2, U.S. Department of Commerce, National Institute of Standards and Technology, Washington, DC, 58-104.
- Kou, L., D. Labrie, and P. Chylek, 1993: Refractive indices of water and ice in the 0.65-2.5 μm spectral range. Appl. Opt., 32, 3,531-3,540.
- Kwok, J., 1987: The Artificial Satellite Analysis Program, Computer Software Management and Information Center, Athens, Georgia, 92 pp.

_ T. -

- Land, P.E., and J.D. Haigh, 1996: Atmospheric correction over case 2 waters with an iterative fitting algorithm, Appl. Opt., 35, 5,443-5,451.
- Landry, M.R., 1993: Estimating rates of growth and grazing mortality of phytoplankton by the dilution method. In: Handbook of Methods in Aquatic Microbial Ecology, P.F. Kemp, B.F. Sherr, E.B. Sherr, and J.J. Cole, Eds., Lewis Publishers, Boca Raton, Florida, 714-722.
- Lane, A.P., and W.M. Irvine, 1973: Monochromatic phase curves and albedos for the lunar disk. Astron. J., 78, 267– 277.
- Lang, K.R., 1980: Astrophysical Formulae, Second Edition, Springer-Verlag, New York, 783 pp.
- Larason, T.C., S.B. Bruce, and C.L. Cromer, 1996: The NIST high accuracy scale for absolute spectral response from 406 nm to 920 nm. *J. Res. NIST*, **101**, 133-140.
- Latasa, M., R.R. Bidigare, M.E. Ondrusek, M.C. Kennicutt II, 1996: HPLC analysis of algal pigments: A comparison exercise among laboratories and recommendations for improved analytical performance. Mar. Chem., 51, 315-324.
- —, —, and —, 1999: On the measurement of pigment concentrations by monochromator and diode-array spectrophotometers. *Mar. Chem.*, **66**, 253–254.
- Lazin, G., 1998: Correction Methods for Low-Altitude Remote Sensing of Ocean Color. M.Sc. Thesis, Dalhousie University, Halifax, Nova Scotia, 98 pp.
- —, S. Hooker, G. Zibordi, S. McLean, and M.R. Lewis, 1998: In-water and above-water measurements of ocean color. *Proc. Ocean Optics XIV*, Office of Naval Research, Washington, DC, [Available on CD-ROM].
- Leckner, B., 1978: The spectral distribution of solar radiation at the Earth's surface—Elements of a model. *Solar Energy*, 20, 143-150.
- Lee, Z.P., K.L. Carder, R.G. Steward, T.G. Peacock, C.O. Davis, and J.L. Mueller, 1996: Remote sensing reflectance and inherent optical properties of oceanic waters derived from above-water measurements. *Proc. SPIE*, 2963, 160–166.
- —, —, —, —, and J.S. Patch, 1998: An empirical ocean color algorithm for light absorption coefficients of optically deep waters. *J. Geophys. Res.*, **103**, 27,967–27,978.
- Liu, B.Y.H., and K.W. Lee, 1976: Efficiency of membrane Nucleopore filters for submicrometer aerosols. Env. Sci. Tech., 10, 345-50.
- Liu, K., 1978: "Earth oblateness modeling." In: Wertz, J.R., Spacecraft Attitude Determination and Control, D. Reidel Publishing Company, Dordrecht, Holland, 98-102.
- Loisel, H., and A. Morel, 1998: Light scattering and chlorophyll concentration in case 1 waters: A reexamination. *Limnol. Oceanogr.*, 43, 847-858.

-M-

Maffione, R.A., and D.R. Dana, 1997: Instruments and methods for measuring the backward-scattering coefficient of ocean waters. Appl. Opt., 36, 6,057-6,067.

- Mantoura, R.F.C., and E.M.S. Woodward, 1983: Optimization of the indophenol blue method for the automated determination of ammonia in estuarine waters. *Estuar. Coastal Shelf Sci.*, 17, 219–224.
- —, and D.J. Repeta, 1997: Calibration method for HPLC. In: Phytoplankton Pigments in Oceanography: Guidelines to Modern Methods. S.W. Jeffrey, R.F.C. Mantoura, and S.W. Wright, Eds., UNESCO Publishing, Paris, 407-428.
- ——, S.W. Wright, S.W. Jeffrey, R.G. Barlow, and D.G. Cummings, 1997: "Phytoplankton pigments in oceanography: Guidelines to modern methods." In: S.W. Jeffrey, R.F.C. Mantour, and S.W. Wright, Eds., UNESCO Monograph in Oceanographic Methods. Report for SCOR WH 78, SCOR-UNESCO Monographs on Oceanographic Methodology. Paris, France, 662 pp.
- Marggraf, W.A., and M. Griggs, 1969: Aircraft measurements and calculations of the total downward flux of solar radiation as a function of altitude. *J. Atmos. Sci.*, **26**, 469-477.
- Maritorena, S., A. Morel, and B. Gentili, 1994: Diffuse reflectance of oceanic shallow water: Influence of water depth and bottom albedo. *Limnol. Oceanogr.*, 39, 1,689–1,703.
- —, and J.E. O'Reilly, 2000: "OC2v2: Update on the initial operational SeaWiFS chlorophyll a algorithm." In: O'Reilly, J.E., and 24 Coauthors, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 3. NASA Tech. Memo. 2000-206892, Vol. 11, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 3-8.
- McClain, C.R., 2000: "SeaWiFS postlaunch calibration and validation overview." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000-206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 4-12.
- ——, W.E. Esaias, W. Barnes, B. Guenther, D. Endres, S.B. Hooker, B.G. Mitchell, and R. Barnes, 1992: SeaWiFS Calibration and Validation Plan. NASA Tech. Memo. 104566, Vol. 3, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 41 pp.
- ——, R.H. Evans, J.W. Brown, and M. Darzi, 1995: "SeaWiFS quality control masks and flags: initial algorithms and implementation strategy." In: McClain, C.R., W.E. Esaias, M. Darzi, F.S. Patt, R.H. Evans, J.W. Brown, K.R. Arrigo, C.W. Brown, R.A. Barnes, and L. Kumar, Case Studies for SeaWiFS Calibration and Validation, Part 4. NASA Tech. Memo. 104566, Vol. 28, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 3-7.
- ----, M. Darzi, R.A. Barnes, R.E. Eplee, Jr., J.K. Firestone, F.S. Patt, W.D. Robinson, B.D. Schieber, R.H. Woodward, and E-n. Yeh, 1996: SeaWiFS Calibration and Validation Quality Control Procedures. NASA Tech. Memo. 104566, Vol. 38, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 68 pp.
- —, M.L. Cleave, G.C. Feldman, W.W. Gregg, S.B. Hooker, and N. Kuring, 1998: Science quality SeaWiFS data for global biosphere research. Sea Technol., 39, 10-16.

- ----, and G.S. Fargion, 1999a: SIMBIOS Project 1998 Annual Report. NASA Tech. Memo. 1999-208645, NASA Goddard Space Flight Center, Greenbelt, Maryland, 105 pp.
- —, and —, 1999b: SIMBIOS Project 1999 Annual Report, NASA Tech. Memo. 1999–209486, NASA Goddard Space Flight Center, Greenbelt, Maryland, 128 pp.
- —, E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, 2000a: Sea-WiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000-206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 82 pp.
- ——, R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, 2000b: SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000–206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 57 pp.
- McLean, S., S. Feener, J. Scrutton, M. Small, S. Hooker, and M. Lewis, 1998: SQM-II: A commercial portable light source for field radiometer quality assurance. *Proc. Ocean Opt. XIV*, [Available on CD-ROM], Office of Naval Research, Washington, DC.
- Mitchell, B.G., and D.A. Kiefer, 1988: Chlorophyll-a specific absorption and fluorescence excitation spectra for light-limited phytoplankton, *Deep-Sea Res.*, **35**, 639-663.
- —, and O. Holm-Hansen, 1991: Bio-optical properties of Antarctic Peninsula waters: differentiation from temperate ocean models. *Deep-Sea Res.*, 38, 1,009–1,028.
- Mobley, C.D., 1999: Estimation of the remote-sensing reflectance from above-surface measurements. *Appl. Opt.*, **38**, 7,442–7,455.
- Monahan, E.C., 1971: Oceanic whitecaps. J. Phys. Oceanogr., 1, 139-144.
- Moore, G.K., 1980: Satellite remote sensing of water turbidity. Bull. Hydrolog. Sci., 25, 407–421.
- ---, J. Aiken, N. Rees, and S. Hooker, 1997: Remote Sensing of Bio-Optical Provinces. Abstract. Proc. 23rd Annual Conf. Exhib. Remote Sens. Soc., 545-550.
- —, J. Aiken, and S.J. Lavender, 1999: The atmospheric correction of water colour and the quantitative retrieval of suspended particulate matter in Case II waters application to MERIS, Int. J. Remote Sens., 20, 1,713-1,734.
- Moore, K.D., K.J. Voss, and H.R. Gordon, 1998: Spectral reflectance of whitecaps: Instrumentation, calibration, and performance in coastal waters. *J. Atmos. Ocean. Technol.*, **15**, 496–509.
- —, —, and —, 2000: Spectral reflectance of whitecaps: Their contribution to water-leaving radiance. *J. Geophys. Res.*, **105**, 6,493-6,499.
- Morel, A., 1974: "Optical properties of pure water and pure seawater." In: Optical Aspects of Oceanography, N.G. Jerlov and E. Steemann Nielsen, Eds., Academic Press, San Diego, California, 1–24.
- ——, 1980: In-water and remote measurements of ocean color. Bound.-Layer Meteorol., 18, 177-201.

- ----, 1988: Optical modeling of the upper ocean in relation to its biogenous matter content (Case I waters). J. Geophys. Res., 93, 10,749-10,768.
- —, and L. Prieur, 1977: Analysis of variations in ocean color. Limnol. Oceanogr., 22, 709-722.
- ——, and A. Bricaud, 1981: Theoretical results concerning light absorption in a discrete medium, and application to specific absorption by phytoplankton. *Deep-Sea Res.*, 28, 1,375–1,393.
- —, and Y-H. Ahn, 1990: Optical efficiency factors of freeliving marine bacteria: Influence of bacterioplankton upon the optical properties and particulate organic carbon in oceanic waters, J. Mar. Res., 48, 145-175.
- ——, and B. Gentili, 1991: Diffuse reflectance of oceanic waters: its dependence on sun angle as influenced by the molecular scattering contribution. *Appl. Opt.* 30, 4,427–4,438.
- —, and —, 1996: Diffuse reflectance of oceanic waters. III. Implication of bidirectionality for the remote sensing problem, Appl. Opt., 35, 4,850-4,862.
- , and S. Maritorena, 2001: Bio-optical properties of oceanic waters: a reappraisal. *J. Geophys. Res.*, **106**, 7,163–7,180.
- —, and J.L. Mueller, 2002: "Normalized water-leaving radiance and remote sensing reflectance: Bidirectional reflectance and other factors." In: J.L. Mueller and G.S. Fargion, Eds., Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 3, Vol. 2. NASA Tech. Memo. 2002–210004, NASA Goddard Space Flight Center, Greenbelt, Maryland, 183–210.
- —, D. Antoine, and B. Gentilli, 2002: Bidirectional reflectance of oceanic waters: Accounting for Raman emission and varying particle scattering phase function. Appl. Opt., 41, 6,289-6,306.
- Morris, A.W., R.J.M. Howland, and A.J. Bale, 1978: A filtration unit for use with continuous autoanalytical systems applied to highly turbid waters. *Estuar. Coastal Mar. Sci.*, 6, 105-109.
- Mueller, J.L., 1984: Effects of water reflectance at 670 nm on Coastal Zone Color Scanner (CZCS) aerosol radiance estimates off the coast of central California. *Ocean Optics VII, Proc. SPIE*, 489, Bellingham, Washington, 179–186.
- ——, 1993: The First SeaWiFS Intercalibration Round-Robin Experiment, SIRREX-1, July 1992. NASA Tech. Memo. 104566, Vol. 14, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 60 pp.
- —, 1995a: "An integral method for analyzing irradiance and radiance attenuation profiles." In: Siegel, D.A., M.C. O'Brien, J.C. Sorensen, D.A. Konnoff, E.A. Brody, J.L. Mueller, C.O. Davis, W.J. Rhea, and S.B. Hooker, Results of the SeaWiFS Data Analysis Round-Robin (DARR-94), July 1994. NASA Tech. Memo. 104566, Vol. 26, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 44-52.

- —, 1995b: "Comparison of irradiance immersion coefficients for several Marine Environmental Radiometers (MERs)." In: Mueller, J.L., R.S. Fraser, S.F. Biggar, K.J. Thome, P.N. Slater, A.W. Holmes, R.A. Barnes, C.T. Weir, D.A. Siegel, D.W. Menzies, A.F. Michaels and G. Podesta, Case Studies for SeaWiFS Calibration and Validation, Part 3. NASA Tech. Memo. 104566, Vol. 27, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 3-15.
- —, 1996: MER-2040 SN 8728: Irradiance Immersion Factors, CHORS Tech. Memo. 004-96, Center for Hydro-Optics and Remote Sensing, San Diego State University, San Diego, California, 3 pp.
- —, 2000a: "SeaWiFS algorithm for the diffuse attentuation coefficient, K(490), using water-leaving radiances at 490 and 555 nm." In: O'Reilly, J.E., and 24 Coauthors, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 3. NASA Tech. Memo. 2000-206892, Vol. 11, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 24-27.
- ——, 2000b: "In-water radiometric profile measurements and data analysis protocols." In: Fargion, G.S., and J.L. Mueller, Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 2. NASA Tech. Memo. 2000– 209966, NASA Goddard Space Flight Center, Greenbelt, Maryland, 87–97.
- ——, 2000c: "Overview of Measurement and Data Analysis Protocols." In: G.S. Fargion and J.L. Mueller, Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 2. NASA Tech. Memo. 2000–209966, NASA Goddard Space Flight Center, Greenbelt, Maryland, 87–97.
- —, 2002: "Overview of Measurement and Data Analysis Protocols." In: J.L. Mueller and G.S. Fargion, Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 3, Volume 1. NASA Tech. Memo. 2002– 210004/Rev3-Vol1, NASA Goddard Space Flight Center, Greenbelt, Maryland, 123-137.
- —, and R.W. Austin, 1992: Ocean Optics Protocols for Sea-WiFS Validation. NASA Tech. Memo. 104566, Vol. 5, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 43 pp.
- B.C. Johnson, C.L. Cromer, J.W. Cooper, J.T. McLean, S.B. Hooker, and T.L. Westphal, 1994: The Second Sea-WiFS Intercalibration Round-Robin Experiment, SIRREX-2, June 1993. NASA Tech. Memo. 104566, Vol. 16, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 121 pp.
- —, and R.W. Austin, 1995: Ocean Optics Protocols for Sea-WiFS Validation, Revision 1. NASA Tech. Memo. 104566, Vol. 25, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 67 pp.
- —, B.C. Johnson, C.L. Cromer, S.B. Hooker, J.T. McLean, and S.F. Biggar, 1996: The Third SeaWiFS Intercalibration Round-Robin Experiment, SIRREX-3, September 1994. NASA Tech. Memo. 104566, Vol. 34, S.B. Hooker, E.R. Firestone, and J.G. Acker, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 78 pp.

- ——, and C.C. Trees, 1997: "Revised SeaWiFS prelaunch algorithm for the diffuse attenuation coefficient K(490)." In: Yeh, E-n., R.A. Barnes, M. Darzi, L. Kumar, E.A. Early, B.C. Johnson, and J.L. Mueller, Case Studies for SeaWiFS Calibration and Validation, Part 4. NASA Tech. Memo. 104566, Vol. 41, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 18-21.
- ——, and A. Morel, 2002: "Fundamental Definitions, Relationships and Conventions." In: J.L. Mueller and G.S. Fargion, Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 3, Volume 1. NASA Tech. Memo. 2002-210004/Rev3-Vol1, NASA Goddard Space Flight Center, Greenbelt, Maryland, 10-28.
- ——, C. Pietras, S.B. Hooker, D.K. Clark, A. Morel, R. Frouin, B.G. Mitchell, R.R. Bidigare, C. Trees, J. Werdell, G.S. Fargion, R. Arnone, R.W. Austin, S. Bailey, W. Broenkow, S.W. Brown, K. Carder, C. Davis, J. Dore, M. Feinholz, S. Flora, Z.P. Lee, B. Holben, B.C. Johnson, M. Kahru, D.M. Karl, Y.S. Kim, K.D. Knobelspiesse, C.R. McClain, S. McLean, M. Miller, C.D. Mobley, J. Porter, R.G. Steward, M. Stramska, L. Van Heukelem, K. Voss, J. Wieland, M.A. Yarbrough, and M. Yuen, 2002a: Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 3, Volume 1. NASA Tech. Memo. 2002–210004/Rev3-Vol1, J.L. Mueller and G.S. Fargion, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 137 pp.
- —, C. Davis, R. Arnone, R. Frouin, K. Carder, Z.P. Lee, R.G. Steward, S. Hooker, C.D. Mobley, and S. McLean, 2002b: "Above-Water Radiance and Remote Sensing Reflectance Measurement and Analysis Protocols." In: J.L. Mueller and G.S. Fargion, Ocean Optics Protocols for Satellite Ocean Color Sensor Validation, Revision 3, Volume 2. NASA Tech. Memo. 2002-210004/Rev3-Vol2, NASA Goddard Space Flight Center, Greenbelt, Maryland, 171-182.
- Muller-Karger, F., C.R. McClain, and P. Richardson, 1988: The dispersal of the Amazon water. *Nature*, **333**, 56-59.

- N -

- Neckel, H., and D. Labs, 1984: The solar radiation between 3,300 and 12,500Å. Solar Physics, 90, 205-258.
- Nicodemus, F.E., 1978: "More on the distribution of optical radiation with respect to position and direction." In: F.E.
 Nicodemus, Ed., Self-Study Manual on Optical Radiation Measurements, Part 1—Concepts, NBS Tech. Note 910-2, U.S. Department of Commerce, National Institute of Standards and Technology, Washington, DC, 1-57.

-O-

- O'Reilly, J.E., and C. Zetlin, 1998: Seasonal, Horizontal, and Vertical Distribution of Phytoplankton Chlorophyll a in the Northeast U.S. Continental Shelf Ecosystem. NOAA Tech. Report NMFS, 39, Fishery Bulletin, 120 pp.
- —, S. Maritorena, B.G. Mitchell, D.A. Siegel, K.L. Carder, S.A. Garver, M. Kahru, and C. McClain, 1998: Ocean color chlorophyll algorithms for SeaWiFS. J. Geophys. Res., 103, 24,937–24,953.

- —, S. Maritorena, M.C. O'Brien, D.A. Siegel, D. Toole, B.G. Mitchell, M. Kahru, F.P. Chavez, P. Strutton, G.F. Cota, S.B. Hooker, C.R. McClain, K.L. Carder, F. Müller-Karger, L. Harding, A. Magnuson, D. Phinney, G.F. Moore, J. Aiken, K.R. Arrigo, R. Letelier, M. Culver, 2000: "Ocean color chlorophyll a algorithms for SeaWiFS, OC2, and OC4: Version 4," In: O'Reilly, J.E., and 24 Coauthors, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 3. NASA Tech. Memo. 2000–206892, Vol. 11, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 9-23.
- O'Shea, D.C., 1985: Elements of Modern Optical Design, John Wiley and Sons, New York, 402 pp.
- Owens, N.J.P., and A.P. Rees, 1989: Determination of Nitrogen-15 at submicrogram levels of nitrogen using automated continuous-flow isotope ratio mass spectrometry. *Analyst*, 114, 1,655–1,657.

-P-

- Pagano, T.S., and R.M. Durham, 1993: Moderate Resolution Imaging Spectroradiometer (MODIS). SPIE, 1939, 2-17.
- Pak, H., J.R.V. Zaneveld, and G.F. Beardsley, 1971: Mie scattering by suspended clay particles, J. Geophys. Res., 76, 5,065-5,069.
- Palmer, K.F., and D. Williams, 1974: Optical properties of water in the near infrared. J. Opt. Soc. Amer., 66, 1,107– 1,110.
- Partensky, F., N. Hoepffner, W.K.W. Li, O. Ulloa, and D. Vaulot, 1993: Photoacclimation of Prochlorococcus sp. (Prochlorophyta) strains isolated from the North Atlantic and the Mediterranean Sea. Plant Physiol., 101, 285-296.
- Patt, F.S., 1999: "Assessment of geolocation for SeaWiFS and OCTS using island targets." Proc. CNES Seminar, Inorbit characterization of optical imaging systems, Bordeaux, France, November 1999.
- ——, 2002: Navigation Algorithms for the SeaWiFS Mission. NASA Tech. Memo. 2002-206892, Vol. 16, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 17 pp.
- —, and W.W. Gregg, 1994: Exact closed-form geolocation algorithm for Earth survey sensors. *Inter. J. Remote Sens.*, 15, 3,719–3,734.
- ——, R.H. Woodward, and W.W. Gregg, 1997: An automated method for navigation assessment for Earth survey sensors using island targets. *Inter. J. Remote Sens.*, 18, 3,311–3,336.
- —, and S. Bilanow, 2001: "Horizon scanner triggering height analysis for OrbView-2." Proc. 2001 Flight Mechanics Symp., NASA Contractor Rept., 2001-209986, NASA Goddard Space Flight Center, Greenbelt, Maryland, 559-573.
- Petzold, T.J., and R.W. Austin, 1988: Characterization of MER 1032. *Tech. Memo. EN-001-88t*, Vis. Lab., Scripps Institution of Oceanography, La Jolla, California, 56 pp. plus appendices.
- Pinkerton, M.H., and J. Aiken, 1999: Calibration and validation of remotely-sensed observations of ocean colour from a moored data buoy, J. Atmos. Oceanic Technol., 16, 915– 923.

- Podesta, G., 1995: "SeaWiFS Global Fields: What's In a Day?"
 In: Mueller, J.L., R.S. Fraser, S.F. Biggar, K.J. Thome,
 P.N. Slater, A.W. Holmes, R.A. Barnes, C.T. Weir, D.A.
 Siegel, D.W. Menzies, A.F. Michaels, and G. Podesta: Case
 Studies for SeaWiFS Calibration and Validation, Part 3.
 NASA Tech. Memo. 104566, Vol. 27, S.B. Hooker and
 E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 34-42.
- Pope, R.M., and E.S. Fry, 1997: Absorption spectrum (380-700 nm) of pure water, II. Integrating cavity measurements, *Appl. Opt.*, **36**, 8,710-8,723.
- Press, W.H., and S.A. Teukolsky, 1992: Fitting straight line data with errors in both coordinates. *Computers in Phys.*, 6, 274-276.
- —, —, W.T. Vettering, and B.P. Flannery, 1992: Numerical Recipes in C: The Art of Scientific Computing. Cambridge University Press, 994 pp.
- Priesendorfer, R.W., and C.D. Mobley, 1986: Albedos and glitter patterns of a wind roughened sea surface. J. Phys. Oceanogr., 16, 1,293-1,316.

$-\mathbf{Q}$

- Quinn, P.K., 1988: Simultaneous observations of ammonia in the ocean and atmosphere in the remote marine environment. Ph.D. Thesis, University of Washington, Seattle, Washington, 138 pp.
- —, R.J. Charlson, and T.S. Bates, 1988: Simultaneous observations of ammonia in the atmosphere and ocean. *Nature*, **335**, 336–338.
- ----, T.S. Bates, J.E. Johnson, J.E. Covert, and R.J. Charlson, 1990: Interactions between the sulfur and reduced nitrogen cycles over the central Pacific Ocean. J. Geophys. Res., 95, 16,405–16,416.

-R-

- Remer, L.A., Y.J. Kaufman, and B.N. Holben, 1996: "The size distribution of ambient aerosol particles: smoke vs. urban/industrial aerosol." In: Biomass Burning and Global Change, J.S. Levine, Ed., MIT Press, Cambridge, Massachusetts, 519-530.
- Reuter, R., 1980: Characterization of marine particle suspensions by light scattering. II. Experimental results. *Oceanol. Acta*, 3, 325-332.
- Ricker, W.E., 1973: Linear regressions in fishery research. J. Fish. Res. Board Canada, 30, 409-434.
- Riley, T., and S. Bailey, 1998: The Sixth SeaWiFS/SIMBIOS Intercalibration Round-Robin Experiment (SIRREX-6) August-December 1997. NASA Tech. Memo. 1998-206878, NASA Goddard Space Flight Center, Greenbelt, Maryland, 26 pp.
- Robins, D.B., A.J. Bale, G.F. Moore, N.W. Rees, S.B. Hooker,
 C.P. Gallienne, A.G. Westbrook, E. Marañón, W.H.
 Spooner, and S.R. Laney, 1996: AMT-1 Cruise Report
 and Preliminary Results. NASA Tech. Memo. 104566, Vol.
 35, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard
 Space Flight Center, Greenbelt, Maryland, 87 pp.
- Robinson, N., 1966: Solar Radiation. American Elsevier, New York, 347 pp.

- Robinson, W.D., and M. Wang, 2000: "Vicarious calibration of SeaWiFS band 7." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000-206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 38-42.
- "Changes made in the operational SeaWiFS processing."
 In: McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000-206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 12-28.
- Ruddick, K.G., F. Ovidio, and M. Rijkeboer, 2000: Atmospheric correction of SeaWiFS imagery for turbid coastal and inland waters. Appl. Opt., 39, 897-912.

-S

- Sagan, S., A.R. Weeks, I.S. Robinson, G.F. Moore, and J. Aiken, 1995: The relationships between the beam attenuation coefficient and chlorophyll concentration and reflectance in Antarctic waters. *Deep-Sea Res.*, **42**, 983–996.
- Sakuma, F., B.C. Johnson, S.F. Biggar, J.J. Butler, J.W. Cooper, M. Hiramatsu, and K. Suzuki, 1996: EOS AM-1 preflight radiometric measurement comparison using the Advanced Spaceborne Thermal Emission and Reflection radiometer (ASTER) visible/near-infrared integrating sphere. SPIE, 2820, 184-196.
- Saunders, R.D., and J.B. Shumaker, 1977: Optical Radiation Measurements: The 1973 NBS Scale of Spectral Irradiance. NBS Tech. Note 594-13, National Bureau of Standards, Gaithersburg, Maryland, 29 pp.
- —, and —, 1984: Automated radiometric linearity tester. Appl. Opt., 23, 3,504-3,506.
- Shaw, P-S., B.C. Johnson, S.B. Hooker, and D. Lynch, 1997: The SeaWiFS Quality Monitor—a portable field calibration light source. *Proc. SPIE*, **2963**, 772–776.
- Shettle, E.P., and R.W. Fenn, 1979: Models for the Aerosols of the Lower Atmosphere and the Effects of Humidity Variations on Their Optical Properties. AFGL-TR-79-0214, U.S. Air Force Geophysics Laboratory, Hanscom Air Force Base, Massachusetts, 94 pp.
- Shimada, M., H. Oaku, Y. Mitomi, H. Murakami, A. Mukaida, J. Ishizaka, H. Kawamura, T. Tanaka, M. Kishino, and H. Fukushima, 1998: Calibration and validation of Ocean Color Version-3 Product from ADEOS OCTS, J. Oceanogr., 54, 401-416.
- Siegel, D.A., M.C. O'Brien, J.C. Sorensen, D.A. Konnoff, E.A.
 Brody, J.L. Mueller, C.O. Davis, W.J. Rhea, and S.B.
 Hooker, 1995: Results of the SeaWiFS Data Analysis
 Round-Robin (DARR-94), July 1994. NASA Tech. Memo.
 104566, Vol. 26, S.B. Hooker and E.R. Firestone, Eds.,
 NASA Goddard Space Flight Center, Greenbelt, Maryland, 58 pp.

- —, M. Wang, S. Maritorena, and W. Robinson, 2000: Atmospheric correction of satellite ocean color imagery: The black pixel assumption. *Appl. Opt.*, **39**, 3,582–3,591.
- Sildam, J., M.R. Lewis, and J.C. Cullen, 1998: Multiresolution analysis of diffuse attenuation coefficient with an emphasis on surface and deep layers, Ocean Optics XIV.
- Slater, P.N., and J.M. Palmer, 1991: Solar-diffuser panel and ratioing radiometer approach to satellite sensor on-board calibration. SPIE, 1493, 100-105.
- ——, Biggar, S.F., J.M. Palmer, and K.J. Thome, 2001: Unified approach to absolute radiometric calibration in the solar-reflective range. Remote Sens. Environ., 77, 293-303.
- Sloss, P.W., 1988: Digital Relief of the Surface of the Earth. Data Announcement 88-MGG-02, NOAA, National Geophysical Data Center, Boulder, Colorado, 2 pp.
- ——, 2001: ETOPO2 Database on CD-ROM, NOAA, National Geophysical Data Center, Boulder, Colorado, USA.
- Smirnov, A., B.N. Holben, O. Dubovik, N.T. O'Neill, L.A. Remer, T.F. Eck, I. Slustsker, and D. Savoie, 2000: Measurement of atmospheric optical parameters on U.S. Atlantic coast sites, ships and Bermuda during TARFOX, J. Geophys. Res., 105, 9,887-9,901.
- Smith, E.V.P., and D.M. Gottlieb, 1974: Solar flux and its variation. Space Sci. Rev., 16, 771-802.
- Smith, R.C., and K.S. Baker, 1978: Optical classification of natural waters. *Limnol. Oceanogr.*, 23, 260-267.
- —, and —, 1981: Optical properties of the clearest natural waters (200–800 nm). Appl. Opt., 20, 177–184.
- ----, and W.H. Wilson, 1981: Ship and satellite bio-optical research in the California Bight. Oceanography from Space, J.F.R. Gower, Ed., Plenum Press, 281–294.
- ----, and ----, 1984: The analysis of ocean optical data. Ocean Optics VII, M. Blizard, Ed., SPIE, 478, 119-126.
- —, and —, 1986: Analysis of ocean optical data II. Ocean Optics VIII, P.N. Slater, Ed., SPIE, 637, 95-107.
- —, D.A. Menzies, and C.R. Booth, 1997: Oceanographic Bio-Optical Profiling System II, Ocean Optics XIII, S.G. Ackelson and R. Frouin, Eds., Proc. SPIE, 2963, 777-789.
- Stout, D.F., 1976: Handbook of Operational Amplifier Design, M. Kaufman, Ed., McGraw-Hill, New York, 317 pp.
- Stramski, D., and D.A. Kiefer, 1991: Light scattering by microorganisms in the open ocean, *Prog. Oceanogr.*, 28, 343–383.
- —, and C.D. Mobley, 1997: Effects of microbial particles on ocean optics: A database of single-particle optical properties, *Limnol. Oceanogr.*, **42**, 538-549.
- Strickland, J.D.H., and T.R. Parsons, 1972: A Practical Hand-book of Sea Water Analysis. Fish. Res. Board. Canada, 310 pp.
- Stumpf, R.P., and M.A. Tyler, 1988: Satellite detection of bloom and pigment distributions in estuaries. *Remote Sens. Environ.*, 24, 385-404.

- —, and J.R. Pennock, 1989: Calibration of a general optical equation for remote sensing of suspended sediment in a moderately turbid estuary. J. Geophys. Res., 94, 14,363-14,371.
- Sturm, B., and G. Zibordi, 2002: SeaWiFS atmospheric correction by an approximate model and vicarious calibration, *Int. J. Remote Sens.*, 23, 489-501.
- Subramaniam, A., R.R. Hood, C.W. Brown, E.J. Carpenter, and D.G. Capone, 2001: Detecting *Trichodesmium* blooms in SeaWiFS imagery. *Deep-Sea Res.*, 49, 107-121.
- Sydor, M., and R.A. Arnone, 1997: Effect of suspended particulate and dissolved organic matter on remote sensing of coastal and riverine waters. Appl. Opt., 36, 6,905-6,912.

-T-

- Tanré, D., M. Herman, P.Y. Deschamps, and A. de Leffe, 1979: Atmospheric modeling for space measurements of ground reflectances, including bidirectional properties. Appl. Opt., 18, 213,587-213,597.
- ——, C. Deroo, P. Duhaut, M. Herman, J.J. Morcrette, J. Perbos, and P.Y. Deschamps, 1990: Description of a computer code to simulate the satellite signal in the solar spectrum: The 5S code. *Int. J. Remote Sens.*, 11, 656–668.
- Tassan, S., and M. Ferrari, 1995: An alternative approach to absorption measurements of aquatic particles retained on filters. *Limnol. Oceanogr.*, 40, 1,358-1,368.
- —, and —, 2002: A Sensitivity analysis of the "Transmittance-Reflectance" method for measuring light absorption by aquatic particles. J. Plankton Res., 24, 757-774.
- Taylor, B.N., and C.E. Kuyatt, 1994: Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results. NIST Tech. Note 1297, U.S. Department of Commerce, National Institute of Standards and Technology, Washington, DC, 20 pp.
- Tegen, I., and A.A. Lacis, 1996: Modeling of particle size distribution and its influence on the radiative properties of mineral dust aerosol, *J. Geophys. Res.*, 101, 19,237–19,244.
- Thompson, A., and H-M. Chen, 1994: Beamcon III, a linearity measurement instrument for optical detectors. *J. Res. NIST*, 99, 751-755.
- Thuillier, G., M. Hersé, P.C. Simon, D. Labs, H. Mandel, and D. Gillotay, 1998a: Observation of the solar spectral irradiance from 200 to 870 nm during the ATLAS 1 and 2 missions by the SOLSPEC spectrometer. *Metrologia*, 35, 689-695.
- ——, ——, ——, ——, and T. Foujols, 1998b: The visible solar spectral irradiance from 350 to 850 nm as measured by the SOLSPEC spectrometer during the Atlas I mission. Solar Physics, 177, 41-61.
- lar spectral irradiance from 200 to 2400 nm as measured by the SOLSPEC spectrometer from the Atlas 1-2-3 and EURECA missions. Solar Physics, 214, 1-22.
- Tsai, B.K., and B.C. Johnson, 1998: Radiometric traceability for fundamental measurements: Estimation and evaluation of combined standard uncertainties, *Metrologia*, **35**, 587–593.

- Twardowski, M.S., J.M. Sullivan, P.L. Donaghay, and J.R. Zaneveld, 1999: Microscale quantification of the absorption by dissolved and particulate material in coastal waters with AC-9, J. Atmos. Oceanic Technol., 16, 691-707.
- Tyler, J.E., and R.C. Smith, 1970: Measurements of Spectral Irradiance Underwater. Gordon and Breach, New York, 103 pp.

-11-

UNESCO, 1981: Tenth report of the joint panel on oceanographic tables and standards. Sidney, British Columbia, September 1980, *UNESCO Tech. Papers Mar. Sci.*, **36**, 25 pp.

-V-

- Vance, T.C., J.D. Schumacher, P.J. Stabeno, C.T. Baier, T. Wyllie-Echeverria, C.T. Tynan, R.D. Brodeur, J.M. Napp, K.O. Coyle, M.B. Decker, G.L. Hunt, Jr., D. Stockwell, T.E. Whitledge, M. Jump, and S. Zeeman, 1998: Aquamarine waters recorded for the first time in the Eastern Bering Sea. EOS, 79, 121 and 126.
- van der Linde, D., 2003: The AAOT Deployment Systems: An Overview. EUR Report 20548 EN, Joint Research Centre, Ispra, Italy, 13 pp.
- Van Heukelem, L., and C.S. Thomas, 2001: Computer-assisted HPLC method development with applications to the isolation and analysis of marine phytoplankton pigments. J. Chrom. A., 910, 31-49.
- Van Neste, A., R.A. Duce, and C. Lee, 1987: Methylamines in the marine atmosphere. Geophys. Res. Lett., 14, 711-714.
- Verity, P.G., D.K. Stoecker, M.E. Sieracki, and J.R. Nelson, 1996: Microzooplankton grazing of primary production at 140°W in the equatorial Pacific. *Deep-Sea Res. II*, 43, 1,227-1,255.
- Vermote, E.F., D. Tanre, J.L. Deuze, M. Herman, and J-J. Morcrette, 1997: Second simulation of the satellite signal in the solar spectrum, 6S: An Overview. IEEE Trans. Geosci. Remote Sens., 35, 675-686.
- Vesk, M., and S.W. Jeffrey, 1987: Ultrastructure and pigments of two strains of the picoplanktonic alga *Pelagococcus sub*viridis (Chrysophyceae). J. Phycol., 23, 322-336.
- Vidussi, F., H. Claustre, J. Bustillos-Guzmán, C. Cailliau, and J.C. Marty, 1996: Determination of chlorophylls and carotenoids of marine phytoplankton: separation of chlorophyll a from divinyl-chlorophyll a and zeaxanthin from lutein. J. Plankton Res., 18, 2,377–2,382.
- Vigroux, E., 1953: Contribution à l'étude expérimentale de l'absorption de l'ozone. Ann. Phys., 8, 709-762.
- Voss, K.J., 1992: A spectral model of the beam attenuation coefficient in the ocean and coastal areas, *Limnol. Oceanogr.*, 37, 501-509.

~W, X-

Walker, J.H., R.D. Saunders, and A.T. Hattenburg, 1987a: Spectral Radiance Calibrations. NBS Special Publication 250-1, U.S. Department of Commerce, National Institute of Standards and Technology, Washington, DC, 68 pp.

- —, —, J.K. Jackson, and D.A. McSparron, 1987b: Spectral Irradiance Calibrations. NBS Special Publication 250-20, U.S. Department of Commerce, National Institute of Standards and Technology, Washington, DC, 37 pp., plus Appendices.
- ----, and A. Thompson, 1994: Improved automated current control for standard lamps. J. Res. NIST, 99, 255-261.
- Wang, M., 1999a: Atmospheric correction of ocean color sensors: Computing atmospheric diffuse transmittance, Appl. Opt., 38, 451-455.
- —, 1999b: A sensitivity study of the SeaWiFS atmospheric correction algorithm: Effects of spectral band variations. *Remote Sens. Environ.*, **67**, 348-359.
- —, 2000: "The SeaWiFS atmospheric correction algorithm updates." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000–206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 57–63.
- ----, 2003: Correction of artifacts in the SeaWiFS atmospheric correction: Removing the discontinuity in the derived products. Remote Sens. Environ., 84, 603-611.
- —, and H.R. Gordon, 1994: A simple, moderately accurate, atmospheric correction algorithm for SeaWiFS. Remote Sens. Environ., 50, 231-239.
- —, and B. Franz, 2000: Comparing the ocean color measurements between MOS and SeaWiFS: A vicarious intercalibration approach for MOS. *IEEE Trans. Geosci. Remote Sens.*, 38, 184-197.
- —, and S.W. Bailey, 2000: "Correction of the sun glint contamination on the SeaWiFS aerosol optical thickness retrievals." In: McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr., F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1. NASA Tech. Memo. 2000–206892, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 64–68.
- ——, C.M. Pietras, and C.R. McClain, 2000a: "SeaWiFS aerosol optical thickness match-up analyses." In: McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000–206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 39–44.
- ——, B.A. Franz, and R.A. Barnes, 2000b: "Analysis of the SeaWiFS spectral band-pass effects." In: McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, Sea-WiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000-206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 6-11.
- —, and S.W. Bailey, 2001: Correction of sun glint contamination on the SeaWiFS ocean and atmospheric products. *Appl. Opt.*, 40, 4,790-4,798.

- of spectral bandpass on SeaWiFS-retrieved near-surface optical properties of the ocean. Appl. Opt., 40, 343-348.
- Watanabe, T., A. Hongu, K. Honda, N. Masataka, M. Konno, and S. Saitoh, 1984: Preparation of chlorophylls and pheophytins by isocratic liquid chromatography. Anal. Chem., **56**, 251-256.
- Waters, K.J., R.C. Smith, and M.R. Lewis, 1990: Avoiding ship-induced light-field perturbation in the determination of oceanic optical properties, Oceanogr., 3, 18-21.
- Wehrli, C., 1985: Extraterrestrial Solar Spectrum, Publ. 615, Physikalisch-Meterologisches Observatorium World Radiation Center, Davos-Dorf, Switzerland, 23 pp.
- Welschmeyer, N.A., 1994: Fluorometric analysis of chlorophylla in the presence of chlorophyll-b and pheopigments. Limnol. Oceanogr., 39, 1,985-1,992.
- Wertz, J.R., 1978: Solar system constants (Appendix L). Spacecraft Attitude Determination and Control, D. Reidel Publishing Company, Dordrecht, Holland, 819.
- WETLabs, 2002: AC-9 Protocol Document. [World Wide Web From URL: http://www.wetlabs.com/Products /pub/ac9/ WETLabs, Inc., Philomath, Oregon.
- Woodward, R.H., R.A. Barnes, C.R. McClain, W.E. Esaias, W.L. Barnes, and A.T. Mecherikunnel, 1993: Modeling of the SeaWiFS Solar and Lunar Observations. NASA Tech. Memo. 104566, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 26 pp.
- World Meteorological Organization, 1983: Guide to the Meteorological Instruments and Methods of Observation, WMO-N.8, 517 pp.
- Wright, S.W., S.W. Jeffrey, F.C. Mantoura, C.A. Llewellyn, T. Bjørnland, D. Repeta, and N. Welschmeyer, 1991: Improved HPLC method for the analysis of chlorophylls and carotenoids from marine phytoplankton. Mar. Ecol. Prog. Ser., 77, 183-196.
- Wyatt, C.L., 1978: Radiometric Calibration: Theory and Methods, Academic Press, New York, 200 pp.
- -, 1987: Radiometric System Design, Macmillan Publishing Company, New York, 315 pp.

-Y-

- Yang, H., and H.R. Gordon, 1997: Remote sensing of ocean color: Assessment of water-leaving radiance bidirectional effects on atmospheric diffuse transmittance. Appl. Opt., **36,** 7,887-7,897.
- Yeh, E-n., M. Darzi, and L. Kumar, 1997: "SeaWiFS stray light correction algorithm." In: Yeh, E-n., R.A. Barnes, M. Darzi, L. Kumar, E.A. Early, B.C. Johnson, J.L. Mueller, and C.C. Trees, Case Studies for SeaWiFS Calibration and Validation, Part 4. NASA Tech. Memo. 104566, Vol. 41, S.B. Hooker, and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 24-30.

- -, B.A. Franz, R.A. Barnes, and C.R. McClain, 2001: Effect Young, A.T., 1980: Revised depolarization corrections for atmospheric extinction. Appl. Opt., 19, 3,427-3,428.
 - Young, D.F., P. Minnis, D.R. Doelling, G.G. Gibson, and T. Wong, 1998: Temporal interpolation methods for the clouds and Earth's Radiant Energy System (CERES) experiment. J. Appl. Meteor., 37, 572-590.

-Z-

- Zaneveld, J.R., D.M. Roach, and H. Pak, 1974: The determination of the index of refraction distribution of oceanic particulates. J. Geophys. Res., 79, 4,091-4,095.
- -, J.C. Kitchen, A. Bricaud, and C. Moore, 1992: Analysis of in situ spectral absorption meter data. Ocean Optics XI, Proc. SPIE, 1750, 187-200.
- -, and C. Moore, 1994: The scattering error coefficient of reflective absorption measurements, Proc. SPIE, Ocean Optics XII, 2,258, 44-54.
- Zavatarelli, M., F. Raicich, D. Bregant, A. Russo, and A. Artegiani, 1998: Climatological biogeochemical characteristics of the Adriatic Sea. J. Mar. System, 18, 227-263.
- Zege, E.P., A.P. Ivanov, and I.L. Katsev, 1991: Image Transfer Through a Scattering Medium. Springer-Verlag, New York, 349 pp.
- Zibordi, G., and M. Ferrari, 1995: Instrument self-shading in underwater optical measurements: Experimental data. Appl. Opt., 34, 2,750-2,754.
- V. Barale, G.M. Ferrari, N. Hoepffner, L. Alberotanza, P. Cova, and C. Ramasco, 1995: Coastal Atmosphere and Sea Time-Series project (CoASTS): An ocean colour remote sensing calibration-validation project. Proc. Third Thematic Conf. Remote Sens. Mar. Coastal Environ., Seattle, September 18-20, 2, 96-100.
- J.P. Doyle, and S.B. Hooker, 1999: Offshore tower shading effects on in-water optical measurements. J. Atmos. Ocean. Technol., 16, 1,767-1,779.
- and J-F. Berthon, 2001: In situ relationships between Qfactor and seawater optical properties in a coastal region, Limnol. Oceanogr., 46, 1,130-1,140.
- -, J-F. Berthon, J.P. Doyle, S. Grossi, D. van der Linde, C. Targa, and L. Alberotanza 2002a: Coastal Atmosphere and Sea Time Series (CoASTS), Part 1: A Tower-Based Long-Term Measurement Program. NASA Tech. Memo. 2002-206892, Vol. 19, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Maryland, 29 pp.
- S.B. Hooker, J-F. Berthon, and D. D'Alimonte, 2002b: Autonomous above-water radiance measurements from an offshore platform: A field assessment experiment. J. Atmos. Oceanic Technol., 19, 808-819.

THE SEAWIFS POSTLAUNCH TECHNICAL REPORT SERIES

Vol. 1

Johnson, B.C., J.B. Fowler, and C.L. Cromer, 1998: The Sea-WiFS Transfer Radiometer (SXR). NASA Tech. Memo. 1998-206892, Vol. 1, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 58 pp.

Vol. 2

Aiken, J., D.G. Cummings, S.W. Gibb, N.W. Rees, R. Woodd-Walker, E.M.S. Woodward, J. Woolfenden, S.B. Hooker, J-F. Berthon, C.D. Dempsey, D.J. Suggett, P. Wood, C. Donlon, N. González-Benitez, I. Huskin, M. Quevedo, R. Barciela-Fernandez, C. de Vargas, and C. McKee, 1998: AMT-5 Cruise Report. NASA Tech. Memo. 1998-206892, Vol. 2, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 113 pp.

Vol. 3

Hooker, S.B., G. Zibordi, G. Lazin, and S. McLean, 1999: The SeaBOARR-98 Field Campaign. NASA Tech. Memo. 1999-206892, Vol. 3, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 40 pp.

Vol. 4

Johnson, B.C., E.A. Early, R.E. Eplee, Jr., R.A. Barnes, and R.T. Caffrey, 1999: The 1997 Prelaunch Radiometric Calibration of SeaWiFS. NASA Tech. Memo. 1999-206892, Vol. 4, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 51 pp.

Vol. 5

Barnes, R.A., R.E. Eplee, Jr., S.F. Biggar, K.J. Thome, E.F.
Zalewski, P.N. Slater, and A.W. Holmes 1999: The Sea-WiFS Solar Radiation-Based Calibration and the Transferto-Orbit Experiment. NASA Tech. Memo. 1999-206892, Vol. 5, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 28 pp.

Vol. 6

Firestone, E.R., and S.B. Hooker, 2000: SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1-5. NASA Tech. Memo. 2000-206892, Vol. 6, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 14 pp.

Vol. 7

Johnson, B.C., H.W. Yoon, S.S. Bruce, P-S. Shaw, A. Thompson, S.B. Hooker, R.E. Eplee, Jr., R.A. Barnes, S. Maritorena, and J.L. Mueller, 1999: The Fifth SeaWiFS Intercalibration Round-Robin Experiment (SIRREX-5), July 1996. NASA Tech. Memo. 1999-206892, Vol. 7, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 75 pp.

Vol. 8

Hooker, S.B., and G. Lazin, 2000: The SeaBOARR-99 Field Campaign. NASA Tech. Memo. 2000–206892, Vol. 8, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 46 pp.

Vol. 9

McClain, C.R., E.J. Ainsworth, R.A. Barnes, R.E. Eplee, Jr.,
F.S. Patt, W.D. Robinson, M. Wang, and S.W. Bailey,
2000: SeaWiFS Postlaunch Calibration and Validation
Analyses, Part 1. NASA Tech. Memo. 2000-206892, Vol.
9, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard
Space Flight Center, 82 pp.

Vol. 10

McClain, C.R., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, N.C. Hsu, F.S. Patt, C.M. Pietras, W.D. Robinson, B.D. Schieber, G.M. Schmidt, M. Wang, S.W. Bailey, and P.J. Werdell, 2000: SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2. NASA Tech. Memo. 2000–206892, Vol. 10, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 57 pp.

Vol. 11

O'Reilly, J.E., S. Maritorena, M.C. O'Brien, D.A. Siegel, D. Toole, D. Menzies, R.C. Smith, J.L. Mueller, B.G. Mitchell, M. Kahru, F.P. Chavez, P. Strutton, G.F. Cota, S.B. Hooker, C.R. McClain, K.L. Carder, F. Müller-Karger, L. Harding, A. Magnuson, D. Phinney, G.F. Moore, J. Aiken, K.R. Arrigo, R. Letelier, M. Culver, 2000: SeaWiFS Postlaunch Calibration and Validation Analyses, Part 3. NASA Tech. Memo. 2000-206892, Vol. 11, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, 49 pp.

Vol. 12

Firestone, E.R., and S.B. Hooker, 2001: SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1-11. NASA Tech. Memo. 2001-206892, Vol. 12, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 24 pp.

Vol. 13

Hooker, S.B., G. Zibordi, J-F. Berthon, S.W. Bailey, and C.M.
Pietras, 2000: The SeaWiFS Photometer Revision for Incident Surface Measurement (SeaPRISM) Field Commissioning. NASA Tech. Memo. 2000-206892, Vol. 13, S.B.
Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 24 pp.

Vol. 14

Hooker, S.B., H. Claustre, J. Ras, L. Van Heukelem, J-F. Berthon, C. Targa, D. van der Linde, R. Barlow, and H. Sessions, 2000: The First SeaWiFS HPLC Analysis Round-Robin Experiment (SeaHARRE-1). NASA Tech. Memo. 2000-206892, Vol. 14, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 42 pp.

Vol. 15

Hooker, S.B., G. Zibordi, J-F. Berthon, D. D'Alimonte, S. Maritorena, S. McLean, and J. Sildam, 2001: Results of the Second SeaWiFS Data Analysis Round Robin, March 2000 (DARR-00). NASA Tech. Memo. 2001-206892, Vol. 15, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 71 pp.

Vol. 16

Patt, F.S., 2002: Navigation Algorithms for the SeaWiFS Mission. NASA Tech. Memo. 2002-206892, Vol. 16, S.B.
 Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 17 pp.

Vol. 17

Hooker, S.B., S. McLean, J. Sherman, M. Small, G. Lazin,
G. Zibordi, and J.W. Brown, 2002: The Seventh SeaWiFS
Intercalibration Round-Robin Experiment (SIRREX-7),
March 1999. NASA Tech. Memo. 2002-206892, Vol. 17,
S.B. Hooker and E.R. Firestone, Eds., NASA Goddard
Space Flight Center, Greenbelt, Maryland, 69 pp.

Vol. 18

Firestone, E.R., and S.B. Hooker, 2003: SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1-17. NASA Tech. Memo. 2003-206892, Vol. 18, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 28 pp.

Vol. 19

Zibordi, G., J-F. Berthon, J.P. Doyle, S. Grossi, D. van der Linde, C. Targa, and L. Alberotanza 2002: Coastal Atmosphere and Sea Time Series (CoASTS), Part 1: A Tower-Based Long-Term Measurement Program. NASA Tech. Memo. 2002-206892, Vol. 19, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 29 pp.

Vol. 20

Berthon, J-F., G. Zibordi, J.P. Doyle, S. Grossi, D. van der Linde, and C. Targa, 2002: Coastal Atmosphere and Sea Time Series (CoASTS), Part 2: Data Analysis. NASA Tech. Memo. 2002-206892, Vol. 20, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 25 pp.

Vol. 21

Zibordi, G., D. D'Alimonte, D. van der Linde, J-F. Berthon,
S.B. Hooker, J.L. Mueller, G. Lazin, and S. McLean, 2002:
The Eighth SeaWiFS Intercalibration Round-Robin Experiment (SIRREX-8), September-December 2001. NASA Tech. Memo. 2002-206892, Vol. 21, S.B. Hooker and
E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 39 pp.

Vol. 22

Patt, F.S., R.A. Barnes, R.E. Eplee, Jr., B.A. Franz, W.D. Robinson, G.C. Feldman, S.W. Bailey J. Gales, P.J. Werdell, M. Wang, R. Frouin, R.P. Stumpf, R.A. Arnone, R.W. Gould, Jr., P.M. Martinolich, V. Ransibrahmanakul, J.E. O'Reilly, and J.A. Yoder, 2003: Algorithm Updates for the Fourth SeaWiFS Data Reprocessing, NASA Tech. Memo. 2003-206892, Vol. 22, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 74 pp.

Vol. 23

Hooker, S.B., G. Zibordi, J-F. Berthon, D. D'Alimonte, D. van der Linde, and J.W. Brown, 2003: Tower-Perturbation Measurements in Above-Water Radiometry. NASA Tech. Memo. 2003-206892, Vol. 23, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 35 pp.

Vol. 24

Firestone, E.R., and S.B. Hooker, 2003: SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1–23. NASA Tech. Memo. 2003–206892, Vol. 24, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 35 pp.

Form Approved OMB No. 0704-0188 REPORT DOCUMENTATION PAGE Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Artington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. 3. REPORT TYPE AND DATES COVERED 1. AGENCY USE ONLY (Leave blank) 2. REPORT DATE August 2003 Technical Memorandum 4. TITLE AND SUBTITLE 5. FUNDING NUMBERS SeaWiFS Postlaunch Technical Report Series Code 970.2 Volume 24: The SeaWiFS Postlaunch Technical Report Series Cumulative Index: Volumes 1-23 6. AUTHOR(S) Elaine R. Firestone and Stanford B. Hooker Series Editors: Stanford B. Hooker and Elaine R. Firestone 8. PERFORMING ORGANIZATION 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) REPORT NUMBER Laboratory for Hydrospheric Processes Goddard Space Flight Center 2003-01913-0

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

National Aeronautics and Space Administration Washington, D.C. 20546–0001

10. SPONSORING/MONITORING

TM-2003-206892, Vol. 24

AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

Greenbelt, Maryland 20771

E.R. Firestone: Science Applications International Corporation, Beltsville, Maryland

12a. DISTRIBUTIONAVAILABILITY STATEMENT Unclassified—Unlimited Subject Category 48 Report is available from the Center for AeroSpace Information (CASI), 7121 Standard Drive, Hanover, MD 21076-1320. (301)621-0390

13. ABSTRACT (Maximum 200 words)

The Sea-viewing Wide Field-of-view Sensor (SeaWiFS) is the follow-on ocean color instrument to the Coastal Zone Color Scanner (CZCS), which ceased operations in 1986, after an eight-year mission. SeaWiFS was launched on 1 August 1997, onboard the OrbView-2 satellite, built by Orbital Sciences Corporation (OSC). The SeaWiFS Project at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center (GSFC), undertook the responsibility of documenting all aspects of this mission, which is critical to the ocean color and marine science communities. The start of this documentation was titled the SeaWiFS Technical Report Series, which ended after 43 volumes were published. A follow-on series was started, titled the SeaWiFS Postlaunch Technical Report Series. This particular volume of the so-called Postlaunch Series serves as a reference, or guidebook, to the previous 23 volumes and consists of 4 sections including an errata, an index to key words and phrases, a list of acronyms used, and a list of all references cited. The editors will publish a cumulative index of this type after every five volumes.

14. SUBJECT TERMS	15. NUMBER OF PAGES		
SeaWiFS, Oceanography,	35		
			16. PRICE CODE
17. SECURITY CLASSIFICATION	18. SECURITY CLASSIFICATION	19. SECURITY CLASSIFICATION	20. LIMITATION OF ABSTRACT
OF REPORT	OF THIS PAGE	OF ABSTRACT	
Unclassified	Unclassified	Unclassified	Unlimited